"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, A.A., inzh.

Using the K-8N cutter-loader in inclined seams. Ugol' Ukr. 4 no.9:32-33 S '60. (MIRA 13:10)

(Coal mining machinery)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBALCHENKO, A.A., inzh.

Rapid crosscutting at the No.1-2 "Gorskaya" Mine. Ugol' 40 no.1:11-13 Ja '65. (MIRA 18:4)

1. Donetskiy sovet narodnogo khozyaystva.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 35604-65 EWT(d)/EWT(m)/EWP(f)/EPR/T-2/EWA(c)
ACCESSION NR: AP5004946 S/0285/65/000/002/0041/0041

AUTHOR: Rybal'chenko, A. G.

21
B

TITLE: A means of antipumpage regulation of the charging pressure of a turbo-reciprocating engine of internal combustion. Class 27, No. 167595

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 2, 1965, 41

TOPIC TAGS: turbine, internal combustion engine, control equipment, pump

ABSTRACT: This Author Certificate presents a device for antipumpage regulation of the charging pressure in a turboreciprocating internal combustion engine. The device features variation of the pitch angle setting of the compressor vanes. An extremal regulator with a logical device fixes the compressor setting so that the compressor and the engine perform sychronously. The logical device transforms the pressure charge impulse into an output signal for the supplementary mechanism which rotates the vanes to the optimal angle. This action allows maximum charge pressure for the motor at its given work load. The device is shown in Fig. 1 on the Enclosure. Orig. art. has: 1 figure.

ASSOCIATION: Kolomenskiy teplovozostroitel'nyy zavod im. V. V. Kuybysheva (Kolomna Diesel Locomotive Construction Works)

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 35604-65

ACCESSION NR: AP5004946

SUBMITTED: 27Apr64 ENCL: 01 SUB CODE: PR, IE

NO REF SOV: 000 OTHER: 000

Card 2/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

1. RYBAL'CHENKO, A.M., Engineer

2. USSR (600)

4. Machinery Industry

7. Tasks in the field of construction of heavy machinery which have been awarded Stalin prizes for the year 1951. Vest.mash. 32 no. 8, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, A. M.

VAVILOV, M.P.; RYBAL'CHENKO, A.M., inzhener, retsenzent; BUR'YANOV, V.F., inzhener, redaktor.

[Lubrication of metallurgical plant equipment] Smazka metallurgicheskogo oborudovaniia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 175 p. (MLRA 7:7)
(Lubrication and lubricants) (Metal industries)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, E.A.

VOLKOV, B.C.; RYBAL'CHENKO, E.A.; TRESKUNOVA, S.L.

[Operating KD-35 tractor] Ekspluatatsiia traktora KD-35. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1953. 164 p. (MLRA 7:6)

(Tractors)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

KUPLYAYEV, I.M. (Leningrad, B. Pushkarskaya ul. d. 30., kv.27); IVLIYEV, N.N. (Gor'kiy, ul. Radistov, d.6, kv.6); CHERNOV, Ya.G. (Gor'kiy, ul. Radistov, d. 6, kv.6); PISAREV, A.L. (Moskva, Lyubertsy, 4. pos. Vsesoyuznogo nauchno-issledovatel'skogo ugol'nogo instituta, d.5, kv.5); GASPAROV, R.G. (Moskva, I-51, 2-y Kolobovskiy pereulok d.9/2 kv.18); POPOV, B.I. (Irkutsk, 13, Depovskiy pereulok, d.83, kv.2); PIONTKOVSKIY, B.A. (Moskva, Ye-77, Sredne-Pervomayskaya ul. d.13, kv.4); VEDENEYEV, G.M. (Moskva, I-110, B. Spasskaya, d. 15/17, kv.29); KRECHER, V.G. (Uzhgorod, Zakarpatskaya obl., ul. Kosmodem'yanskoy, d.4, kv.69); SIDORENKO, A.P. (Leningrad, ul. Frunze, d.15, kv.38); SPIRIDONOV, A.V. (Leningrad, ul. Frunze, d.15, kv.38); SEREDA, P.A. (Moskva); IL'IN, V.F.; PEL'TSMAN, L.N.; DANILEVICH, A.I. (Khar'kov, Plekhanovskiy pereulok, d.9a, kv.2); KHIMENKO, L.T. (Khar'kov, Plekhanovskiy pereulok, d.92, kv.2); LYKOV, M.V. (Moskva, Leninskiy prospekt, d.55); RYBAL'CHENKO, G.F. (Moskva, Leninskiy prospekt, d.55); BOYKO, V.F. (Leningrad, M-142, ul. Tipanova, d.3, kv.130); KITAYEV, G.I. (Chelyabinsk, Smolenskaya ul. d.4); SKLYAROV, A.Ye. (Novocherkassk, Rostovskoy obl. pos. Oktyabr'skiy, Gvardeyskaya ul. d.30, kv.29)

Discoveries and inventions. Prom. energ. 19 no.11:57-58 N '64. (MIRA 18:1)

1. Zavod "Amurkabel'", Khabarovsk (for Il'in, Pel'tsman).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, G.F.

77-1-13/32

AUTHORS: Gerovich, M. A., Rybal'chenko, G. F.

TITLE: The Electrocapillary Behavior of Unsaturated Alicyclic and Aliphatic Hydrocarbons (Elektrokapillyarnoye povedeniye nepredel'nykh alitsiklicheskikh i alifaticheskikh uglevodorodov)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 1, pp. 109 - 115(USSR)

ABSTRACT: Reference is made to the two previous works of the first author (Gerovich) (references 2 and 3). Basing on a comparison of the electrocapillary behavior of aromatic and corresponding hydroaromatic hydrocarbons (benzene-cyclohexane, naphthalene - decalin) the opinion has been expressed that the potential-displacement of the zero-charge of mercury and the prevailing adsorption of molecules of aromatic compounds on the positively charged mercury surface are connected with the effect of interaction between π-electrons of the aromatic nucleus and positive charges on the mercury surface. In the present work the analogous effect in the case of an adsorption on the boundary of mercuric solution of the molecules of other classes of organic compounds (in the case of which some bonds between the carbonic atoms are formed by means of π-electrons) are treated, as e.g. of unsaturated alicyclic and aliphatic hydrocarbons. The electrocapillary behavior of the solutions of

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

76-1-16/32

The Electrocapillary Behavior of Unsaturated Alicyclic and Aliphatic Hydrocarbons

unsaturated cyclic hydrocarbons consisting of five and six parts, as well as unsaturated aliphatic ones were investigated according to the method of $\sigma - \varphi$ -curve photographs. All substances investigated were individual hydrocarbons, a part of which was produced chemically in the Institute for Organic Chemistry imeni N. D. Zelinskiy AN USSR, and was put to the authors' disposal by professor A. F. Plate. It is shown that the aliphatic as well as the cyclic unsaturated hydrocarbons, in which a part of the bonds between the carbon atoms is formed by means of π-electrons, are adsorbed like the aromatic compounds on the positively charged mercury surface, although to a smaller extent. The results obtained on the electrocapillary behavior of the unsaturated aliphatic hydrocarbons are investigated from the view-point of the influence of the number of double bonds and of their distribution in the molecule upon the production and the magnitude of the adsorption effect. The curves recorded from 1 M solutions of the heptene and of the heptene are equal. This shows that, different from the cyclic hydrocarbons (cyclopentene and cyclohexene), the aliphatic hydrocarbons with one double bond (heptene-1) are not adsorbed on the positively charged mercury surface. A conversion to a hydrocarbon with two double bonds in the molecule - with the hexadiene-1,5 - causes a small displacement of the rising branch of the electrocapillary

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curve in the direction of the more negative potentials. This indicates the producing of the adsorption effect on the positively charged mercury surface. A quantitative comparison of the adsorbability in solutions of equal concentration of hexadiene-1,5 and cyclohexadiene-1,3 shows that the greater adsorption effect is present in the case of the cyclic compounds. A comparison of the electrocapillary curves, which were recorded in hexadiene-1,5- and hexadiene-2,4 solutions, showed that the adsorbability on the positively charged mercury surface is essentially higher in the case of a hydrocarbon with a system of conjugated double bonds (hexadiene-2,4) than in the case of hydrocarbons with isolated double bonds (hexadiene-1,3). The experimental data show that the effect of conjugating the double bonds in the molecule of unsaturated aliphatic hydrocarbons has an essential effect upon the electrocapillary behavior of the latter ones, and causes an increase of adsorption on the positivly charged mercury surface on occasion of the conversion from a compound with non-conjugated - to such a one with conjugated double bonds. In this case the increase of the adsorption effect is the result of an increase of the interaction between the positive charges on the metallic surface and the π-electrons of the aliphatic hydrocarbons caused by the increase

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76-1-16/32

The Electrocapillary Behavior of Unsaturated Alicyclic and Aliphatic Hydrocarbons

of the mobility of the latter ones.
The results of the work were discussed with Academician A. N. Frumkin. There are 5 figures, 4 tables, and 4 references, all of which are Slavic.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova)

SUBMITTED: October 8, 1956

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, I. (Kurskaya oblast')

Reducing production costs on collective farms. Vop. ekon. no.10: 34-41 O '59. (MIRA 12:12)
(Kursk Province--Collective farms--Costs)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, I. S.

Tree Planting

Use of a five-blade tractor plow for strip plowing. Les. khoz. 5 no. 3(42), 1952

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, I.S.

Tractors—Repairing

Carefulness of technical maintenance is the guarantee of more efficient use of tractors and machinery. Les. i step' 4, no. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, DECEMBER 1952 ~~1953~~, Uncl.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

VABEL', V.D., inzh.; RYBAL'CHENKO, K.N., inzh.

Use of an N-11 automatic oscillograph for recording preceding conditions. Elek.sta. 32 no.8:89-90 Ag '61. (MIRA 14:10)
(Electric networks) (Oscillograph)
(Magnetic recorders and recording)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, L., inzh.

Improved hose reel. Pozh. delo 9 no.4:25 Ap '63. (MIRA 16:4)

(Fire departments—Equipment and supplies)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

YELEN, B.L. [IElen, B.L.], inzh.; MERZON, A.G. [Merzon, A.H.], inzh.; ZHURAVITSKAYA, Sh.M. [Zhuravyts'ka, Sh.M.], inzh.; VOL'VICH, R.M., inzh.; RYBAL'CHENKO, L.K.

Potentialities for improving the economy characteristics of shoe upper styles by designing matching pattern contours. Leh.prom. no.1:73-75 Ja-Mr '62. (MIRA 15:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut kozhevennoy promyshlennosti.
(Ukraine--Shoe manufacture)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

S/081/62/000/004/024/087
B149/B101

AUTHORS: Babko, A. K., Rybal'chenko, L. N.

TITLE: Comparative characteristics of the methods for the determination of zircon in titanium-zircon ores

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 140, abstract 4D96 (Sb. "Khim., fiz.-khim. i spektr. métody issled. rud redk. i rasseyan. elementov". M., Gosgeoltekhizdat, 1961, 5 - 12)

TEXT: Of all the methods for the determination of Zr (e. g. salicylate, phenylarsonate, phthalate, cupferron, mandelate, phosphate, hydroxyquinolinate, complexometric) the mandelate, the phosphate-hydroxyquinolinate and the complexometric methods are suitable for Ti-Zr ore analysis. The mandelate method is simple, uses a specific reagent and gives reproducible results. However, because mandelic acid is hardly available this method cannot be used under industrial conditions. The shortcoming in the (gravimetric) phosphate-hydroxyquinolinate method is the length of time involved in the analysis and the necessity of reprecipitation, but this not

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

Comparative characteristics of ... S/081/62/000/004/024/087
B149/B101

method gives results which agree well with those of the mandelate method, and it can be recommended as a control method. The complexometric method requires less time and gives satisfactory results. A disadvantage is some difficulty in determining the end-point of the titration as the colour change of the indicator (erichrome black T) is not sharp.
[Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

S/137/62/000/003/180/191
A160/A101

AUTHORS: Babko, A. K.; Rybal'chenko, L. V.

TITLE: Comparison characteristic of methods for determining zirconium in titanium-zirconium ores

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 3, abstract 3 K 10 (Khim., fiz.-khim. i spektr. metody issled. rud redk. i rasseyan. elementov," Moscow, Gosgeoltekhizdat, 1961, 5 - 12)

TEXT: Methods used for determining Zr in ores containing 1 - 30 % ZrO_2, 1 - 2 % Fe_2O_3 and 30 - 50 % TiO_2 included precipitation of Zr with the aid of salicylic, phenylarsonic, phthalic and mandelic acids and cupferron, in the form of phosphate and hydroxyquinoline, and a titration of Zr with versene solution. It has been found that for ores of this type the methods using salicylic, phenylarsonic and phthalic acids are ineffective, because they do not ensure a sufficient separation of Zr and Ti. Mandelic acid, phosphate-hydroxyquinoline methods and the method using versene can be used for analyzing titanium-zirconium ores. The latter method is least time consuming and produces satisfactory results. Its

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shortcoming consists in unclear transition of indicator's (eriochrome black) coloration at the end of titration. This method must be somewhat improved. There are 14 references.

N. Gertseva

[Abstracter's note: Complete translation]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

KRESHKOV, A.P.; RYBAL'CHENKO, M.A.

Quantitiative determination of epoxide groups in epoxy resins according to infrared absorption spectra. Trudy Kom.anal.khim. 13:388-393 '63. (MIRA 16:5)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva, kafedra analiticheskoy khimii.
(Epoxy resins--Absorption spectra)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

42953

S/081/62/000/022/060/068
B166/B144

15.8120

AUTHORS: Kreshkov, A. P., Mikhaylenko, Yu. Ya., Rybal'chenko, M. A.

TITLE: Quantitative analysis of epoxy resins

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 479, abstract 22P18 (Vestn. tekhn. i ekon. inform. N.-i. in-t tekhn.-ekon. issled. Gos. kom-ta Sov. Min. SSSR po khimii, no. 9, 1961, 26-29)

TEXT: The method for the quantitative determination of epoxy groups (EG) is based on the dependence of the 912 cm^{-1} (10.96μ) absorption band intensity in the IR region on the EG content of resins. Free phenol is used as the internal standard, in such a quantity that its concentration is constant in comparison with that of the EG. The EG content was determined from a calibration curve: ratio of the optical density of the epoxy and phenyl groups - percentage EG content in the resins. A table gives coinciding results for the quantity of EG in modified and in unmodified epoxy resins as obtained by chemical and by spectral analysis. [Abstracter's note: Complete translation.]

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBATSCHENKO, M. I.

"Examination of the Living- Capacity of Pollen from Humulus Lupulus L. and Related Types, as Regards Germination on Synthetic Nutrient Substrata," Dok. AN, 27, No. 8, 1940.

Ukranian Experimental Station of Hops Cultivation, Zhitomir, 1940-.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

ACCESSION NR: AP4040467 S/0226/64/000/003/0016/0022

AUTHOR: Bal'shin, M. Yu.; Ry*bal'chenko, M. K.; Padalko, O. V.; Eskina, N. P.

TITLE: Some problems of fiber metallurgy

SOURCE: Poroshkovaya metallurgiya, no. 3 (21), 1964, 16-22

TOPIC TAGS: metal fiber, fiber compacting, fiber sintering, fiber metallurgy, metal felt, copper fiber, fiber structure, fiber compact property, molybdenum fiber

ABSTRACT: The properties of copper obtained by compacting and sintering of fibers 100 μ in diameter and 10—15, 5—8, and 2—4 mm in length have been studied. Test specimens were prepared by compacting copper felt obtained by filtration of a copper fiber suspension in glycerin. Specimens were then sintered in hydrogen at 980C for two hours. It was found that specimens made of fibers 10—15 and 5—8 mm long had the same strength, while specimens made of fibers 2—4 mm long had 10--15% less strength. Therefore, further experiments were conducted

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

ACCESSION NR: AP4040467

with fibers 5—8 mm long. Fibers compact better than powders; for instance, the porosity of powder specimens compacted under a pressure of 20 to 30 dan/mm^2 varied from 36 to 26%, while fiber compacts made under the same pressure had a porosity of 30 to 20%. Fiber compacts, however, show much greater spring-back than powder compacts. After repeated compacting and sintering, the strength of fiber compacts is 31 dan/mm^2 compared with 22—24 dan/mm^2 for cast or sintered copper. Compacts made of fibers 50 μ in diameter have even higher strength. The impact strength of fiber compacts decreased with increasing tensile strength, with the same porosity, and varied from 0.62 to 2.5 kgm/cm^2. Copper fiber compacts impregnated with bakelite have a tensile strength 2—4 dan/mm^2 higher, but an impact strength 0.1—0.2 kgm/cm^2 less than unimpregnated compacts. Some experiments were also conducted with molybdenum fibers 50 μ in diameter. Molybdenum fiber compacts were found to have an impact strength of 1.40—1.58 kgm/mm^2; that is, several times higher than powder compacts. Orig. art. has: 6 figures, 3 tables, and 2 formulas.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy imeni Baykov)

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

ACCESSION NR: AP4040467

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SUB CODE: MM NO REF SOV: 002 OTHER: 005

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Card

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

AUTHOR: Rybal'chenko, M.K., Candidate of Technical Sciences. 129-7-6/16

TITLE: On the analogy of the mechanism of sintering and burning on (adhesion by applying heat) of metallo-ceramic material. (Ob analogii mekhanizmov spekaniya i pripekaniya metallokeramicheskikh materialov).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.7, pp.24-27 (U.S.S.R.)

ABSTRACT: The authors investigated the simultaneous sintering of a conglomerate of microscopic powder particles and of adhesion of particles of this conglomerate to the surface of a compact metal of macroscopic dimensions. The formation of contact surfaces between the particles of the powder conglomerate was verified on the basis of the mechanical properties and the densities of the powder layer, whilst the progress of adhesion of the powder particles to the macroscopic surfaces of the metal was utilised for conclusions on the strength of the bond between the powder layer and the compact metal. As starting material, powder of electrolytic copper, lead and tin was used and also powder obtained by pulverising electrolytic iron, silicon, zinc powder, silicic acid and graphite. These powders were carefully mixed in glass tubes inside a mixing drum for 36 hours. The following

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

On the analogy of the mechanism of sintering and burning on (adhesion by applying heat) of metallo-ceramic material. (Cont.) 129-7-6/16

two compositions were investigated: 75.5% Cu, 12% Pb, 6% C, 6.5% Sn and 81.5% Cu, 10% Pb, 2% Fe, 6.5% Sn. The laboratory specimens were sintered in a hydrogen atmosphere. The adhesion to solid plates was tested on plates made of Steel 20 which were first galvanically coated with a thin layer of zinc, copper, tin or cadmium. In this case the sintering conditions were the same as for the powder alone and the test results are entered in a Table, p.25. The obtained data show that the compression strength, the degree of deformation and the hardness of the sintered material and the shear strength between the powder layer and the steel increased with decreasing dimensions of the particles. The graph, Fig.2, shows the dependence of the strength and the hardness properties of bronze on the degree of oxidation of the copper powder, Fig.3 shows the dependence of the same properties on the pressing pressure for bronze, whilst Fig.4 gives the dependence of various physical properties (porosity, specific gravity, dimensional changes) on the pressing pressure for powdered bronze, finally, Fig.5 gives the

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

On the analogy of the mechanism of sintering and burning on (adhesion by applying heat) of metallo-ceramic material. (Cont.) 129-7-6/16

dependence of the strength properties of bronze on the sintering temperature and Fig.6 gives the dependence of the same properties on the sintering duration. It is concluded from the obtained results that the relations governing the adhesion of a layer of particles of a powder metal with microscopic dimensions to a compact metallic body of macroscopic dimensions complies basically with the same relations as the sintering of conglomerate consisting of particles of microscopic dimensions. The relations established during the study of the process of sintering on bodies of macroscopic dimensions (sintering of wires, fusion of shot to blocks etc.) will also apply to the sintering conglomerates of particles of microscopic dimensions. There are six figures, no references.

ASSOCIATION: Institute of Metallurgy, Ac.Sc. imeni A.A. Baykov. (Institut Metallurgii AN SSSR imeni A. A. Baykova).

AVAILABLE:

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, M.K.

Some problems in the heat resistance of sintered materials. Porosh. met. 5 no.4:53-56 '65. (MIRA 18:5)

1. Institut metallurgii im. A.A.Baykova.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 3166-66 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPA(w)-2/EWP(t)/EWP(k)/EWP(z)/
EWP(b) IJP(c) JD/WW/WH

ACCESSION NR: AP5010405 UR/0226/65/000/004/0053/0056

AUTHOR: Rybal'chenko, M. K.

TITLE: Some aspects of the thermal shock resistance of sintered materials

SOURCE: Poroshkovaya metallurgiya, no. 4, 1965, 53-56

TOPIC TAGS: graphite, siliconized graphite, thermal shock, thermal shock resistance, titanium carbide, cemented carbide

ABSTRACT: Spherical, and solid and hollow cylindrical specimens of siliconized graphite and plain grade-A graphite have been tested for thermal shock resistance. The thermal cycle used included rapid heating to 1000C, holding for 5 min, and water quenching. The resistance to thermal shock was found to depend not only on the composition and properties of material, but also on the shape and size of the articles. Less brittle plain graphite resisted repeated thermal shocks better than siliconized graphite. Spherical specimens generally had the highest thermal shock resistance; plain graphite spheres 16 mm in diameter withstood 118 cycles. With increasing diameter, the resistance dropped. Accordingly, the maximum thermal shock resistance of solid cylinders of plain graphite was attained at a height-to-diameter ratio of 1:1. With increased cylinder diameter, the resistance dropped

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ACCESSION NR: AP5010405

2

from 181 cycles for a diameter of 40 mm, to 64 cycles for a diameter of 60 mm (both with 1:1 height-to-diameter ratio). In siliconized graphite cylinders, a maximum resistance of 10.5 cycles was attained at a height-to-diameter ratio of 1:3 (for a diameter of 30 mm). In hollow cylindrical specimens, the thermal shock resistance depends on the ratio of inside diameter to outside diameter, on the wall thickness, and on the height. Hollow cylinders of siliconized graphite 40 mm in outside diameter attained a maximum resistance of 8.5 cycles at an inside diameter of 24 mm. Hollow cylinders of plain graphite with an outside diameter and height of 60 mm and a wall thickness of 6 mm withstood 14 cycles. Orig. art. has: 4 tables and 3 figures. [DV]

ASSOCIATION: Institut Metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 20Oct63 ENCL: 00 SUB CODE: MT, TD

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4029

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 57540-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(t)/EWP(k)/EWP(z)/EWP(b) Pf-4/Pr-4/Ps-4/Pu-4 IJP(c) JD/WW/JG

ACCESSION NR: AR5015164 UR/0137/65/000/005/G034/G034

SOURCE: Ref. zh. Metallurgiya, Abs. 5G203

AUTHOR: Rybal'chenko, M. K.; Padalko, O. V.

TITLE: The structure of sintered "molybdenum-zirconium dioxide" materials

CITED SOURCE: Tr. 7 Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii. Yerevan, 1964, 195-199

TOPIC TAGS: sintering, sintered metal, molybdenum, zirconium dioxide, vacuum, hydrogen atmosphere, metallographic examination, X-ray examination, metal structure

TRANSLATION: The article presents the results of a metallographic and X-ray structural investigation of the change in structure of molybdenum-zirconium dioxide materials as a function of sintering conditions. Samples produced by hydrostatic pressing were sintered in a vacuum of 10^{-3} mm Hg and in a hydrogen atmosphere for 2.5 hrs. Sintering in a vacuum is accompanied by a growth in the molybdenum grain size and by formation of large inclusions, which is explained by the disintegration of the hardening phase. V. Shelamov.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBALCHENKO, M.N., inzhener (g. Oktyabr'skiy)

Large panel construction of a staircase tower 55.2 meters high. Strei. pred. neft. prom. 2 no.3:21-22 Mr '57. (MIRA 10:4)
(Petroleum--Refining) (Staircases)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

SOV/137-57-1-770

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 99 (USSR)

AUTHOR: Rybal'chenko, N. A.

TITLE: The Use of Bentonite Clay and Cumeron Binders for Molding Mixtures (Primeneniye bentonitovoy gliny i kumeronovykh krepiteley dlya formovochnykh smesey)

PERIODICAL: V sb.: Opyt proiz-va otlivok. Khar'kov, Oblizdat, 1955, pp 169-173

ABSTRACT: Bentonite clay in powdery or emulsion form added to the mixture in an amount of 5% was successfully used for the preparation of the green molds for radiators of the "Moskva 132" automobile. The strength of the green mixtures is 0.7 - 0.8 kg/cm^2. The substitution of bentonite clay for fireclay decreases its consumption by 50%, ensuring a high, 75 - 95, gas permeability of the mixture. Bentonite also found application in the preparation of "cured" cores which can be prepared from mixtures containing 3.6% cumeron drying oil (1000 kg drying oil, 500 kg cumeron pitch, 500 kg solvent, and 30 kg vegetable oil).

Ya. M.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, N. A.

Use of bentonite for molding mixtures. N. A. Rybal'chenko. *Liteinoe Proizvodstvo* 1954, No. [illegible] Molding mixtures having strength of 0.6–0.8 kg./sq. cm. and porosity of 60–80 units was successfully prepd. with 45% sand, 54% burnt sand, and 5% bentonite clay. A mixt. of 60% burnt sand, 30% fresh sand, 4.5% bentonite, and 0.5% sulfite liquor (sp. gr. 1.2–1.25) performed well as a material for skin-dried cores. J. D. Gat

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RYBALCHENKO, N.

YERMOLAYEV, A.;KAL'NEV, F.;MIKHAYLOV, M.;NEUPOKOYEV, A.;OGURTSOV, S.;
POLOSUKHIN, V.;PUZAKOVA, V.;RYBAL'CHENKO, N.;SKURIKHIN, I.

Open letter to Comrade A. A. Ishkov, Minister of the Fishing Industry of the U.S.S.R. Sots trud no.3:121-122 Mr '57. (MLRA 10:4)

1. Inzhenery po tekhnormirovaniyu predpriyatiy Glav-komchatrybproma. (Fisheries)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, N.A.

Use of bentonite for molding mixtures. Lit.proizv. no.2:26-27 '54. (MLRA 7:4)
(Bentonite)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

SMIRNOV, V.S.; TRON', A.S.; ALEKSANDROV, A.A.; VITORSKIY, Ya.M.; RYBAL'CHENKO, N.D.

Effect of vacuum rolling on the structure and gas contant of titanium and molybdenum. Trudy LPI no.238:90-94 '64.

(MIRA 17:11)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 35022-65 EWT(m)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4/Pu-4
IJP(c) JD/HW/JG
ACCESSION NR: AT4047714 S/2563/64/000/238/0090/0094

AUTHOR: Smirnov, V. S. (Professor, Corresponding member AN SSSR); Tron', A. S.; Aleksandrov, A. A.; Vitorskiy, Ya. M.; Rybal'chenko, N. D.

TITLE: The effect of vacuum rolling on the structure and gas impregnation of titanium and molybdenum

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 238, 1964. Obrabotka metallov davleniyem (Metalworking by pressure), 90-94

TOPIC TAGS: titanium, molybdenum, vacuum deformation, structure, gas impregnation

ABSTRACT: The effect of rolling under vacuum on structure, contents and distribution of gases during heating was observed in 20x35x120 mm Ti specimens (with 4% Al) and 25x50x90 mm cast Mo specimens. Metallographic examination showed that Ti specimens absorbed gases primarily during heating and not during rolling. The structure of vacuum rolled Ti specimens was more homogeneous and coarse-grained. After vacuum annealing at 1200C and air rolling, the gas impregnated layer in Ti specimens greatly exceeded the thickness of the 0.03 to

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L 35022-65

ACCESSION NR: AT4047714

0.05 mm surface layer of Mo specimens. Vacuum rolled specimens displayed no such layer. During subsequent rolling gas-impregnated surface layers are readily ruptured and cracks propagated. Orig. art. has: 6 figures and 3 tables.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NR REF SOV: 004 OTHER: 000

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, O.K.; RAFIBEKOV, F.M.

Improved lips of the middle pincers of the OM-2 lasting machine. Leh.prom. no.1:45-46 Ja-Mr '63. (MIRA 16:4)

1. Eksperimental'naya fabrika Ukrainskogo nauchno-issledovatel'skogo instituta kozhevennoy promyshlennosti.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

PAVLOV, I.S.; RYBAL'CHENKO, O.K.

Infrared radiation of tube-type electric heaters. Trudy KTIPP no.25:117-121 '62. (MIRA 16:5)
(Infrared heating) (Food industry—Equipment and supplies)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

ZHABIN, A.I.; RYBAL'CHENKO, P.S.; PRIVIS, L.I.; PODMOGIL'NYY, V.I.

Lapping conic couplings of parts. Mashinostroitel' no.2:10-12 F '64. (MIRA 17:3)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

ZHABIN, A.I., inzh.; RYBAL'CHENKO, P.S., inzh.; SHISHMAREV, L.I., inzh.; KNOBLOKH, V.P., inzh.

Determining tolerances for machining bushing holes eliminating their scraping after press fitting. Vest. mashinostr. 45 no.5: 41-45 My '65. (MIRA 18:6)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, R.V. (Moskva); TRET'YAKOV, V.I. (Moskva); CHAPOROVA, I.N. (Moskva)

Effect of tantalum carbide on the composition and properties of the cobalt phase in titanium carbide-tungsten carbide-cobalt alloys. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.4:83-89 Jl-Ag '61. (MIRA 14:8)
(Cobalt alloys--Metallography)
(Powder metallurgy)

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L 25364-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) IJP(c) MJW/JD/JG

ACCESSION NR: AR5005075 S/0277/64/000/011/0023/0024

SOURCE: Ref zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Otd. vyp., Abs. 11.48.154

AUTHOR: Rybal'chenko, R. V.; Chaporova, I. N.; Tret'yakov, V. I.

TITLE: The effect of structurally free carbon on some of the physical, mechanical and operational properties of titanium-tungsten hard alloys

CITED SOURCE: Sb. tr. Vses. N-i tverdykh splavov, no. 5, 1964, 173-181

TOPIC TAGS: metal physical property, metal mechanical property wear resistance, carburization, sintered alloy, tungsten alloy, titanium alloy/ T15K6 alloy, T5K10 alloy, T30K4 alloy

TRANSLATION: The effect of structurally free carbon on the physical and mechanical properties of a number of hard alloys is studied. During sintering in carburizing charges, the content of free carbon gradually increases right up to the saturation limit of the cobalt phase at the sintering temperature. When there is structurally free carbon (graphite) in the alloys studied, the σ_{bend} is increased at 20° by 20-25 Kg/mm^2, and at 800° is reduced somewhat. The wear resistance of T15K6 and

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 27364-65
ACCESSION NR: AR5005075

T5K10 alloys is reduced with an increase in the content of free carbon in the case of steel cutting while that for T30K4 remains practically unchanged.

SUB CODE: MM, MT ENCL: 00

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 25275-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EWA(d)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4
IJP(c) MJW/JD/WW/JG/WH

ACCESSION NR: AR4048251 S/0137/64/000/009/I086/I086 39 38 B

SOURCE: Ref. zh. Metallurgiya, Abs. 9I556

AUTHOR: Ry*bal'chenko, R. V.; Tret'yakov, V. I.; Chaporova, I. N.

TITLE: The effect of structurally free carbon on certain physicomechanical and performance properties of titanium-tungsten hard alloys

CITED SOURCE: Sb. tr. Vses. n.-i. in-t tverdy*kh splavov, no. 5, 1964, 173-181

TOPIC TAGS: titanium base alloy, tungsten containing alloy, metal physical property, metal mechanical property, carbon, alloy T5K10, alloy T15K6, alloy T30K4

TRANSLATION: The following methods were used in investigating the alloys: chemical, metallographic, determination of specific weight, σ_{bu} at room temperature and at 800°, resistance to wear during cutting, electrical conductivity, and measurement of R_A and H_c. When sintering T5K10, T15K6 and T30K4 alloys in carbonized packing (pure

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

L 25275-65
ACCESSION NR: AR4048251

korraks, korraks +0.05% carbon, graphitic sandstone, graphitic sandstone with carbon black, and lamp black) the amount of bound carbon does not change. The amount of free carbon increases gradually up to the saturation point of the cobalt phase at sintering temperature. In the presence of structurally free carbon (graphite) in the alloys investigated, $sigma_{bu}$, in comparison to samples sintered in korraks and which do not contain graphite, increases to 20-25 kg/mm^2 at 20°, while at 800° the same samples have the lowest value of $sigma_{bu}$. The wear resistance of T15K6 and T5K10 alloys during steel cutting decreases with an increase in the level of free carbon, while for alloy T30K4 it is almost unchanged.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, R.V.; CHAPOROVA, I.N.; TRET'YAKOV, V.I.

Influence of carbon on the solubility of titanium carbide in cobalt and some properties of Ti - C - Co alloys. Zhur.neorg.khim. 6 no.11:2517-2527 '61. (MIRA 14:10)
(Titanium-cobalt alloys) (Systems (Chemistry))

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

15 2240

29531
S/078/61/006/011/006/013
B101/B147

AUTHORS: Rybal'chenko, R. V., Chaporova, I. N., Tret'yakov, V. I.

TITLE: Effect of carbon on the solubility of titanium carbide in cobalt, and some properties of Ti-C-Co alloys

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 11, 1961, 2517-2527

TEXT: The ternary system Ti-C-Co has not been studied as yet. The authors studied the action of C on the solubility of TiC in the system TiC-Co. The following initial substances were used: Co obtained by calcinating cobalt oxalate and reducing the oxide by H_2; TiC obtained by reduction of TiO_2 by carbon black, and Ti metal. The components were fused in a vacuum furnace. Some samples were homogenized in H_2 stream. The following alloys were synthesized: TiC-Co alloys with 0.2-10 % by weight of $TiC_{0.98}$; with 0.6, 0.8, and 1.5 % of $TiC_{0.93}$ and alloys with $TiC_{0.64}$, $TiC_{0.55}$, and $TiC_{0.50}$. Samples with C excess were obtained by

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melting in graphite crucibles. The alloys with 0.2 and 0.4 % of $TiC_{0.98}$ as well as those with 0.6 and 0.8 % of $TiC_{0.93}$ were single-phase. Alloys with a higher TiC content showed a TiC + C eutectic at the polyhedral faces of the Co phase. Alloys molten in H_2 stream at 1350-1450°C showed decarbonization, due to which the solubility of TiC in Co and the melting point of the alloy increased. Microstructural analyses of the samples molten in the vacuum confirmed that the solubility of TiC in Co increases due to decreasing content of C. Samples molten in graphite crucibles showed that the solubility of TiC decreased to 50 %. For alloys saturated with C and having an excess of C, the solubility of TiC was not higher than 0.2 %. With decreasing C content it increased up to 5 %. Thermal analysis (determination of solidus points by an МОП-48 (MOP-48) pyrometer) showed that with rising TiC content melting temperature decreased from 1480°C to 1360°C. Melting point of the eutectic TiC + Co was 1365°C (measured by ПП (PP) thermocouple). With decreasing C content it increased to 1440°C. X-ray analysis, performed by K. F. Kuznetsova and L. Kh. Pivovarov under supervision of A. Ye. Koval'skiy by an УРС-50 (URS-50) apparatus, showed that in pure cobalt alloys only cubic Co occurred; in cobalt alloys with 0.2-0.6 % of

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Effect of carbon on the solubility... S/078/61/006/011/006/013
B101/B147

$TiC_{0.98}$, which also contained graphite, only hexagonal Co occurred. C-free alloys behaved differently: Up to a TiC content of 0.6 %, Co was cubic; with 1.5 % of TiC, Co was hexagonal. Microhardness determined by a ПМТ-3 (PMT-3) apparatus showed the following: For pure Co, microhardness was 250 kg/mm^2; for 0.2 % of TiC, it increased to 275 kg/mm^2, and this value did not change with further increasing TiC content. If the alloy contained graphite inclusions (Co + C eutectic), microhardness decreased to 200 kg/mm^2. In alloys containing very little C the hardness of the Co phase increased to 300 kg/mm^2 due to increased solubility of Ti in Co. Change of hardness with rising temperature of solid solutions Co + TiC measured by a ВИМ-1 (VIM-1) apparatus showed a slight difference from the hardness of pure cobalt up to 300°C. At higher temperatures, pure Co is harder. It is evident that the presence of C considerably decreases the hardness of alloys. The melting point of the ternary eutectic TiC + C + Co is 1200°C. Therefore, the synthesis of TiC-Co alloys has to be performed such that rather a loss of C than enrichment by C takes place. Papers by V. N. Yeremenko (Zh. neorg. khimii, 1, 2131 (1956)),

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29531

Effect of carbon on the solubility... S/078/61/006/011/006/013
B101/B147

A. N. Zelikman and D. S. Bernshteyn (Tekhnologiya tsvetnykh metallov (Technology of nonferrous metals) Sbornik trudov, GONTI, M., 1952, v. 23, p. 48) are mentioned. There are 5 figures, 6 tables, and 10 references: 5 Soviet and 5 non-Soviet. The three most recent references to English-language publications read as follows: Max Hansen. Constitution of binary alloys, New York - Toronto - London, 1958; J. Cadoff, J. D. Nielsen, J. Metals, 5(212), 248 (1953); Nishimiro Hideo, Kimuro Hirozo. J. Japan Inst. Metals, 20, 528 (1956).

SUBMITTED: June 3, 1960

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

18.1152 1045

28874
S/180/61/000/004/012/020
E193/E383

AUTHORS: Rybal'chenko, R.V., Tret'yakov, V.I. and Chaporova, I.N.

TITLE: The effect of tantalum carbide on the composition and properties of the cobalt phase in the titanium carbide-tungsten carbide-cobalt alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo. no. 4, 1961, pp. 83 - 89

TEXT: The effect of TaC additions on the properties of WC-TiC-Co and TiC-WC alloys has been frequently studied but there are no published data on the effect of this compound on the properties of the Co binder as present in the cemented WC-TiC carbides; hence the present investigation whose object was to determine the boundary of the single-phase region in the Co-rich corner of the TiC-WC-Co and TiC-WC-TaC-Co systems, the melting points of the eutectics formed in these systems, and microhardness of the Co-rich solid solution at room and elevated temperatures. In addition, the effect of excess (free) carbon on the properties

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of these alloys was also studied. The experimental alloys were prepared in the following manner: three TiC-TaC-WC alloys were prepared first by adding TaC to a TiO_2 + WC + C mixture and heating the whole at 2 000 - 2 200 °C in hydrogen. The composition of these alloys is given below:

Alloy No.	Nominal composition, %		
	TiC	TaC	WC
1	28	5	67
12	28	11	61
24	22	22	56

After grinding and deoxidising, these alloys in the powder form were either sintered or melted with cobalt to form Co-TiC-TaC-WC alloys containing 10 - 99.8% Co. In some cases, excess carbon was introduced by melting the alloys in a graphite crucible. All

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E193/E383

The effect of tantalum carbide ....

alloys were examined after a homogenising treatment, consisting of 24 hours at 1 250 °C, followed by furnace-cooling. The results of hardness measurements are reproduced in Figs. 3 and 4. In Fig. 3, the Vickers hardness (H_V, kg/mm^2) is plotted against the test temperature (t, °C), the various curves relating to pure cobalt (Curve 6) and Co-base solid solutions containing TiC (Curve 1), TaC(Curve 2), TiC + WC (Curves 3, 4) and TiC + WC + TaC (Curve 5). In Fig. 4, the microhardness (H_μ, kg/mm^2) is plotted against the carbide content (wt.%) in Co-base solid solutions containing TiC (Curves 1, 2), TaC (Curve 3), TiC + WC (Curves 4, 5) and TiC + WC + TaC (Curves 6, 7); broken curves relate to alloys containing excess carbon. Several conclusions were reached:

1) addition of TaC (in quantities used in the present investigation) to a TiCWC solid solution does not affect the solubility of TiCWC in Co, irrespective of whether there is a deficiency or an excess of carbon in the system. The boundary of the solid

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solubility range in the Co-TiC-WC system is shown by the curve in the diagram reproduced in Fig. 1, where the concentration is in wt.%.

2) The 2-phase Ta-bearing alloys have the melting point of the bindary eutectic (Co-TiCWCTaC) approximately 100 °C higher than the melting point of the corresponding eutectic in the Co-TiCWC system. At the same time, the melting point of the ternary eutectic (Co + TiCWCTaC + C) is only 20 - 30 °C higher than that of the Co + TiCWC + C eutectic.

3) Room-temperature hardness of the Co-TiCWCTaC single-phase alloys is higher than that of the corresponding Ta-free materials, this difference persisting up to 400 °C. This means that addition of TaC to cemented carbides should increase the high-temperature strength of the Co binder whereby the performance of these alloys in some applications should be improved. This, however, applies only to alloys containing no excess (free) carbon in the presence of which hardness of the TaC-bearing solutions decreases, although still remaining higher than that of TaC-free alloys. Hence the importance of a strict control of the

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S/180/61/000/004/012/020

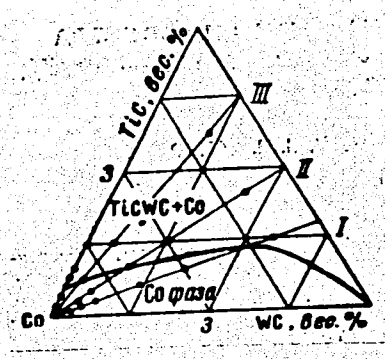
The effect of tantalum carbide E193/E383

carbon content in commercial-grade, Ta-bearing cemented carbides. L.Ye. Pivovarov and A.Ye. Koval'skiy participated in this work.

There are 4 figures, 3 tables and 7 references: 2 Soviet-bloc and 5 non-Soviet bloc. The English-language reference quoted in the abstract is: Ref. 4 - Miller - Metal Progr., 1953, 63, No. 4, 35.

SUBMITTED: July 22, 1960

Fig. 1:



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A006/A101

15.2400

AUTHORS: Rybal'chenko, R. V., Tret'yakov, V. I., Chaporova, I. N.

TITLE: The effect of tantalum carbide on the composition and properties of the cobalt phase in titanium-carbide tungsten-cobalt sintered carbides

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 33, abstract 2G264 ("Izv. AN SSSR, Otd. tekhn. n.", 1961, no. 4, 83-89)

TEXT: When adding 5 - 22 weight % TaC to a solid solution of TiC-WC, the solubility of TaC in Co did not change. Binary (Co-phase-TiCWCTaC) and ternary (Co-phase-TiCWCTaC-C) eutectics melt at higher temperature than corresponding eutectics without TaC. At temperatures up to 400°C single-phase C-TiCWCTaC carbides are harder than Co carbides with TiCWC and TiC. Above 400°C there are no differences in hardness observed. This conclusion pertains only to carbides which do not contain free C.

O. Padalko

[Abstracter's note: Complete translation]

Card 1/1

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

HYBAL'CHENKO, S.D., general-polkovnik aviatsii

Epopee of bravery; on the 15th anniversary of the historical victory of Leningrad. Vest.Vozd.Fl. 41 no.2:73-77 F '59. (MIRA 12:4)

(Leningrad--Siege, 1941-1944)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

KOCHETKOV, Nikolay Ivanovich; RYBAL'CHENKO, T.Ye., red.; DOTSENKO, A.A., tekhn.red.

[In a cabin in the woods] V lesnom domike. Moskva, Gos.izd-vo "Fizkul'tura i sport," 1958. 93 p. (MIRA 13:4)
(Nature study)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

NEMIROVSKIY, S. S., RYBAL'CHENKO, V. I.

Water Supply

Organize the industrial water supply and disposal of waste water. Sakh. prom. 26 no. 3, 1952.

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

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, V. I., NEMIROVSKIY, S. S.

Water Supply

Organize the industrial water supply and disposal of waste water. Sakh. prom. 26 no. 3, 1952.

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

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

ALTAYEV, Sh.A.; RYBAL'CHENKO, V.I.; MUNAYTBASOV, Ye.A.; MUKUSHEV, M.M.

Use of KN-1 cutter-loaders for workings in the Karaganda Basin with debris stowage in the mine. Trudy Inst. gor. dela AN Kazakh. SSR 6:53-61 '60. (MIRA 13:12)

(Karaganda Basin--Coal mines and mining)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, Ye. A

Ekspluatatsiya traktora KD-35 (Utilization of the KD-35 tractor, by) B. G. Volkov, Ye. A. Rybal'chenko, S L. Treskunova. Moskva, Sel'khozgiz, 1953. 164 p. illus., diagrs., tables. "Literatura": p. (165)

N/5
723.1
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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, Ye.A.; OVSYUKOV, V.N., kand.tekhn.nauk

Semi-crawler drive for the DVSSh-16 (T-16) automotive chassis. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.8: 64-65 '62. (MIRA 15:7)

(Crawler tractors)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

VASIL'YEV, Yu.K., kand.tekhn.nauk; PROKOF'YEV, Yu.A., kand.tekhn.nauk; RYBAL'CHENKO, Yu.I., inzh.; LARCHENKO, V.I., inzh.

Stepping reducer motors and semigraphical method for their design. Elektrotekhnika 36 no.12:11-16 D '65. (MIRA 19:1)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHENKO, Zh.L.

Regeneration of the root system in apricots. Izv.AN Uz.SSR no.2:33-40 '56. (MLRA 10:3)

(Apricot) (Roots (Botany) (Regeneration (Botany))

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

V. S. RYBAL'CHIK, S. V. POLYAKOV and V. F. GERASIMENKO

Teoriya porshnevykh aviatsionnykh dvigateley (Theory of Aircraft Reciprocating Engines). 1955, 352 p.

P. 237-281 and scattered information

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHIK, Valentin Stepanovich; POLYAKOV, Sergey Vasil'yevich; GERASIMENKO, Vasiliy Fedorovich; DOBRYNIN, A.A., dotsent, kandidat tekhnicheskikh nauk, inzhener-polkovnik, redaktor; DRUZHININSKIY, M.V., inzhener, mayor, redaktor. SOKOLOVA, G.F., tekhnicheskiy redaktor.

[A theory of piston airplane motors] Teoriia porshnevykh aviatsionnykh dvigatelei. Pod red. A.A.Dobrynina. Moskva, Voen.izd-vo Ministerstva obor. SSSR, 1955. 351 p. (MLRA 9:5)
(Airplanes--Motors)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHIK, VALENTIN STEPANOVICH

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RYBAL'CHIK, VALENTIN STEPANOVICH.

TEORIYA PROSHNEVYKH AVIATSIONNYKH DVIGATELEY (THEORY OF AVIATION PISTON ENGINES, BY) V. S. RYBAL'CHIK, S. V. POLYAKOV (1) V. G. GERASIMENKO. POD RED. A. A. KOBRYNINA. MOSKVA, MIMOBORONY, 1955.

351 P. ILLUS., DIAGRS., TABLES.

BIBLIOGRAPHY: P. (349)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYB AL'CHIK, VALENTIN STEPANOVICH

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TEORIYA PROSHNEVYKH AVIATSIONNYKH DVIGATELEY (THEORY OF AVIATION PISTON ENGINES, BY) V. S. RYBAL'CHIK, S. V. POLYAKOV (1) V. E. GERASIMENKO. POD RED. A. A. DOBRYNINA. MOSKVA, MIMOBORONY, 1955.

351 P. ILLUS., DIAGRS., TABLES.

BIBIOGRAPHY: P. (349)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBAL'CHIK, VALENTIN STEPANOVICH

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RYBAL'CHIK, VALENTIN STEPANOVICH.

TEORIYA PROSHNEVYKH AVIATSIONNYKH DVIGATELEY (THEORY OF AVIATION PISTON ENGINES, BY) V. S. RYBAL'CHIK, S. V. POLYAKOV (1) V. F. GERASIMENKO. POD RED. A. A. DOBRYNINA. MOSKVA, MIMOBORONY, 1955.

351 P. ILLUS., DIAGRS., TABLES.

BIBLIOGRAPHY: P. (349)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBALEVSKAYA, M.D.; TARASOVA, A.A.

Results of applying slightly decomposed peat on sandy soils. Uch. zap.Len.un. no.174:83-92 '54. (MIRA 8:4)
(Peat) (Soils)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBALIKIN, P.

Reequiped T-61 loader. Stroitel' 2 no.9:14 S '56. (MLRA 10:1)
(Loading and unloading)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBALKA, A.F.

Adoption of diesel trains and railway motor cars is an important prerequisite for the improvement of passenger transportation. Zhel.dor. transp. 42 no.10:36-39 O '60. (MIRA 13:10)

1. Glavnyy spetsialist Gosplana USSR po zheleznodorozhnomu mashinostroyeniyu.

(Railroads--Passenger traffic)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

1668. RYBALKA E. L. *Diluted solution of tar soap and sodium chloride and hypertonic solutions of sodium chloride in the treatment of trichomoniasis (Russian text) AKUŠ. I GINEK. 1956, 4 (72-74)

A hypertonic solution of sodium chloride causes hyperaemia, leucocytosis, phagocytosis and acceleration of the flow of lymph. A 10-25% solution in vitro stops the movements of the trichomonas in 30 seconds. Of 32 patients treated daily with vaginal injections of 25% solution for a period of 10-15 days, 25 were cured, 3 were improved and 8% had recurrences after 3 months. Tar soap which causes lysis of the trichomonas in combination with a hypertonic solution of sodium chlor-

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1668

ide results in 87.3% cured and 17.2% recurrences after 3 months. The purity of the vagina improves, acidity increases and the microflora diminish. Patients in the menopause do not show this improvement. Tar soap can be applied to all surfaces of the female genitals.

Ganev - Sofia

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

RYBALKA, F.Ya.

Elements of automation for the control of crystallizing solutions of salts and viscous media. Khim. prom. no.4:49-52 O-D '64. (MIRA 18:3)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

BATYUK, V.P.; RYBALKA, K.F.; GORDIYENKO, S.A.

Electron zero-indicator for measuring the electric conductivity of polymers (polyelectrolytes). Plast.massy no.4:61-64 '62. (MIRA 15:4)

(Polymers--Electric properties)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

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B104/B102

16.8540

AUTHORS: Batyuk, V. P., Rybalka, K. F., Gordiyenko, S. A.

TITLE: An electronic zero indicator for electric conductivity measurements of polymers (polyelectrolytes)

PERIODICAL: Plasticheskiye massy, no. 4, 1962, 61 - 64

TEXT: An alternating-current bridge for measurements of the active and the reactive components of the resistance of polyelectrolytes is described. The bridge balances the active and reactive component of the resistance separately. A narrow-band resonance amplifier connected to the zero-indicator circuit suppresses the higher harmonics of the output signal. A 3 - 10-cps generator feeds the bridge. The resonance amplifier has an operating frequency of 760 cps, a band width of about 100 cps and an amplification factor of about 8000. During the measurement the polyelectrolyte flows through the measuring cell which is placed in a thermostat. The electrodes of this cell are made of platinum wire (0.4 mm in diameter) and have an operating length of 3 mm. Results:

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

Polymer	Concentration %	Resistivity $ohm^{-1} \cdot cm^{-2}$
Copolymer 7 (Methacrylamide-styrene)	0.01	$2.18 \cdot 10^{-4}$
	1	$4.10 \cdot 10^{-3}$
Copolymer 8 (40% methacrylic acid and 60% methacrylamide)	0.01	$1.98 \cdot 10^{-4}$
	1	$4.98 \cdot 10^{-2}$
Polyacrylamide	0.01	$9.92 \cdot 10^{-5}$
	1	$4.22 \cdot 10^{-3}$

There are 6 figures and 2 tables.

X

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

AUTHORS: Vasil'yev, I. M., Rybalka, N. D., Tsin' Su-Yun'

20-119-1-16/52

TITLE: Sugar Accumulation in Wheat Leaves Under the Influence of X-Rays (Nakopleniye sakharov v list'yakh pshenitsy pod vliyaniyem rentgenovskogo oblucheniya)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 1, pp. 62-64 (USSR)

ABSTRACT: I. M. Vasil'yev (Reference 1) showed that various changes in wheat plants irradiated by X-rays have a correlative character. This work discussed one of these changes, that is to say the change of the accumulation of sugar. As initial point served the following observations, made by I. M. Vasil'yev: In case of irradiation of small Röntgen germs with a dose of at least 3000 Röntgen the following unusual phenomenon is observed: From one to one and a half weeks after the irradiation liquid drops appeared on the leaves, which remind of the water drops on occasion of the guttation (guttatsiya). Compared with the guttation the following difference exists: In the case of the gutta-

Card 1/4

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

tion the drops collect in general at the ends of the leaves, but in the here discussed phenomenon they appear at various spots of the leaf. In the course of time the drops turned into round pieces of a white substance. The drops were sticky, similar as a thickened sugar solution, had sweet taste and were readily soluble in water. Thus the idea was suggested, that the cells separate out a thickened sugar solution. To investigate this phenomenon seeds of the winter wheat 599 ("Superelite") was brought into germinating in tap water. The 2-3-days old germs were then illuminated in a luminostate. At the age of 4 days a part of the germs was irradiated and the rest of the germs remained unirradiated. After the irradiation the plants remained for from one and a half to 2 weeks in the luminostate. The analysis of the leaves, which were cut off at the leaf-roots, on sugar (monosaccharides and saccharose) is shortly discussed. In case of all here applied doses of irradiation (1000, 3000, 5000, 50 000, and 100 000 Röntgen) more sugar was found than in case of the unirradiated plants.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

Sugar Accumulation in Wheat Leaves Under the Influence of X-Rays 2o-119-1-16/52

In case of doses of 3ooo and 5ooo Röntgen the difference is noticeably stronger than in case of 1ooo Röntgen. At 5o ooo and 1oo ooo the accumulation of sugar is somewhat less than at 3ooo and 5ooo Röntgen. In the case of all irradiation doses considerably more saccharose than monosaccharides was accumulated. At 3ooo and 5ooo Röntgen particularly great amount of saccharose accumulated. The nature of such a change of the sugar content is caused by the change of growth. After I. M. Vasil'yev suppresses the irradiation of the germs with a dose of 1ooo or 3ooo Röntgen the growth of the germs either partly or completely. The sugar, which because of the suppredded growth is not needed any more, but is still produced, is separated out as is described above.
There are 1 figure, 2 tables and 2 references, both are Soviet.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR (Institute for Biological Physics AS USSR)

Card 3/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

Sugar Accumulation in Wheat Leaves Under the Influence of X-Rays 2o-119-1-16/52

PRESENTED: October 21, 1957, by A. L. Kursanov, Member of the Academy of Sciences, USSR

SUBMITTED: August 31, 1957

Card 4/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

VASIL'YEV, I.M.; RYBALKA, N.D.

Absorption of mineral substances by plant roots following X irradiation [with summary in English]. Biofizika 4 no.1:84-88 Ja '59. (MIRA 12:1)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(PLANTS, EFFECT OF X RAYS ON)
(PLANTS—ASSIMILATION)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

VASIL'YEV, I.M.; PARFENOVA, O.I.; RYBALKA, N.D.

Effect of X irradiation on the amount of nitrogenous substances in wheat plants. Dokl. AN SSSR 124 no.4:928-929 F '59. (MIRA 12:1)

1.Institut biologicheskoy fiziki AN SSSR. Predstavleno akademikom A.L. Kursanovym.
(PLANTS, EFFECT OF X RAYS ON) (AMINO ACIDS)
(NUCLEOTIDES)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

YEVSTIGNEYEV, V.B., GAVRILOVA, V.A., RYBALKA, N.D.

Changes in the oxidation-reduction potential of leaf homogenates ("green suspension") induced by light [with summary in English]. Biokhimiia 23 no.6:824-834 N-D '58 (MIRA 11:12)

1. Institut biokhimii imeni A.N. Bakha AN SSSR, Moskva.
(PLANTS, EFFECT OF LIGHT ON)
(OXIDATION-REDUCTION REACTION)
(CHLOROPHYLL)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

SOV/20-124-4-57/67

17(10)

AUTHORS: Vasil'yev, I. M., Parfenova, O. I., Rybalka, N. D.

TITLE: Effect of X-Irradiation on the Content of Nitrogenous Substances in Wheat Plants (Vliyaniye rentgenovskogo oblucheniya na soderzhaniye azotistykh veshchestv v rasteniyakh pshenitsy)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 928-929 (USSR)

ABSTRACT: It has been proved on an earlier occasion (Ref 1) that significant sugar quantities accumulate in the irradiated wheat plants. This process is effected by a suppression of growth on continuous photosynthesis (Ref 2). The investigation under consideration serves the purpose of checking the assumption according to which the above holds true also of the plastic substances mentioned in the title, which absorb light in the λ 240-300 mμ zone, i.e. of the cyclic amino acids and of the nucleotides. Selected seeds of winter wheat 599 (Super Elite) of equal sizes were germinated in tap water, and 48-hour-old seedlings were transplated into Knop's nutrient solution. 5-6-day-old seedlings were irradiated by means of a RUM-3-device at 15 mA, 180 kW, without a filter. The 5000 r dosis employed completely suppressed growth (Fig 1, b). The leaves of the irradiated and those of the non-irradiated plants (controls) were examined immediately, as well as some time after irradiation. The results

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

SOV/20-124-4-57/67

Effect of X-Irradiation on the Content of Nitrogenous Substances in Wheat Plants

are presented in figure 2. The optical densities of the extracts of either plant group differed but little immediately after irradiation (Fig 2, a); after 7 days, this density is essentially higher in the irradiated plants (Fig 2, b). The extracts are opalescent and filter with greater difficulty. The longer the period of time that has lapsed since irradiation, the higher the optical densities of the extracts rise (Fig 2, v,g). Figure 3 shows the results of the tests conducted for the purpose of clarifying the character of the substances absorbing in the λ 240-300 mμ zone (Ref 3). From the above it follows that under such conditions as are most favorable to photosynthesis, significant quantities of cyclic amino acids and nucleotides accumulate in the leaves of the irradiated winter wheat plants. As is the case in sugars, the formative processes of these substances are not suppressed in the irradiated plants. On the other hand, growth comes to a complete standstill at only 3000 r (Ref 4). This is why amino acids and nucleotides accumulate in the irradiated plants in only the larger quantities the longer photosynthesis lasts after irradiation.-There are 3 figures and 4 references, 2 of which are Soviet.

Card 2/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

SOV/20-124-4-57/67

Effect of X-Irradiation on the Content of Nitrogenous Substances in Wheat Plants

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR (Institute of Biological Physics of the Academy of Sciences, USSR)

PRESENTED: October 1, 1958, by A. L. Kursanov, Academician

SUBMITTED: September 30, 1958

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330012-7

VASIL'YEV, I.M., TSIN' SU-YUN' [CHI'IN SU-YÜN], RYBALKA, N.D.

Exosmosis of substances from plant cells following X irradiation. [with summary in English]. Biofizika 3 no.5:576-581 '58 (MIRA 11:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(ROENTGEN RAYS, effects
exosmosis in plants (Rus))
(OSMOSIS AND PERMEABILITY,
exosmosis in plants induced by x-rays (Rus))

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TITLE: The Influence of X-Ray Treatment Upon the Photosynthesis in Wheat Plants (Deystviya rentgenovskogo oblucheniya na fotosintez rasteniy pshenitsy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 1, pp. 78 - 79 (USSR)

ABSTRACT: In the investigation the authors employed the following method: 4 days old seedlings of winter wheat 599 (Superelite) (which were grown in Kokh trays in a Knop' nutrient solution in a luminostate at the constant temperature of $(23 \pm 2)^{\circ}$ and under constant illumination) were irradiated by means of the device RUM-3 at 180 kV, 15 milliamperes, without filter, and with a dosis of 960 roentgen per minute. The seeds of the irradiated and non-irradiated plants were removed immediately after the irradiation; the plants of each series were subdivided into 2 groups: The one remained under illumination in the luminostate and the other one was brought into the dark at the same temperature. After a fortnight the plants were dried and weighed. In all the experiments the photosynthesis was not interrupted by the x-ray irradiation and

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the plants even after an irradiation by 100,000 roentgen still accumulated dry substance (sukhoye veshchestvo). In all cases the plants irradiated in light were considerably heavier than those irradiated in the dark. After all, the increase in weight of the plants irradiated in light was still lower than it was with the plants which were not irradiated and kept in the dark. Differences depending on the dose were not found. The photosynthesis which in general is very sensitive to adverse conditions is quite insensitive to x-irradiation and still goes on after an irradiation by 100,000 roentgen. There are 1 table, and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR (Institute of Biological Physics AS USSR)

PRESENTED: April 1, 1958, by A.L.Kursanov, Member, Academy of Sciences, USSR

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1. Plants--Effects of radiation 2. X-ray--Physiological effects
3. Photosynthesis--Effects of radiation

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