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Features of the development and course of peptic ulcer in the postwar period. Klin.med. 37 no.11:63-68 N '59. (MIRA 13:3)

1. Iz fakul'tetskoy terapevticheskoy kliniki (direktor - deystvitel'nyy chlen AMN SSSR zasluzhennyy deyatel' nauki prof. V.N. Vinogradov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
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TITOV VELERIY IVANOVICH

PHASE I BOOK EXPLOITATION 406

Suvorovskaya, Natal'ya Aleksandrovna; Titov Veleriy Ivanovich; Brodskaya, Velentina Mikhaylovna; Vasil'yev, Pavel Ivanovich; Lipshits, Bella Moiseyevna; and Elentukh, Mariya Pavlovna

Tekhnicheskiy analiz v tsvetnoy metallurgii (Technical Analysis in Nonferrous Metallurgy) Moscow, Metallurgizdat, 1957. 567 p. 6,000 copies printed.

Reviewers: Troitskaya, M.I., Pomerantsev, I.N., Kozhukova, M.A., Candidates of Technical Sciences; Ed.: Vagina, N.S.; Ed. of Publishing House: Kosolapova, E.F.; Tech Ed.: Vaynshteyn, Ye. B.

PURPOSE: This is a textbook for use in technicums giving courses in nonferrous metallurgy; it may also be used by those performing chemical analysis at plant laboratories.

COVERAGE: The book describes widely used chemical and physico-chemical methods of determining the constituents of nonferrous-metal ores, of processed-ore products, of alloys, etc.

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In addition, sections are included which are devoted to assaying, fuel analysis, water analysis, quality control in electrode production, and rational analysis. For authors of individual sections and chapters, see Table of Contents. There are 98 references, of which 85 are Soviet, 10 English, and 3 Czech.

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TITOV, V.I.

Conference on rare metals. Zav.lab. 23 no.9:1141-1142 '57.
(MIRA 10:12)

(Metals, Rare and minor)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

TITOV, V.I.; BOCHAROVA, A.P.; VASIL'YEV, P.I.; LEBOVA, P.G.; PODVAL'NAYA, R.L.; AVERKIYEVA, T.A., tekhnicheskiy redaktor

[Methods of chemical analysis of mineral ores] Metody khimicheskogo analiza mineral'nogo syr'ia. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr. No.3. 1957. 90 p. (MLRA 10:6)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
(Mineralogical chemistry)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

VASIL'YEV, P.I.; LEBOVA, R.G.; PODVAL'NAYA, P.L.; ROZOVSKAYA, G.V.; RYANICHEVA, M.I.; SILINA, O.M.; TITOV, V.I.; TIKHONOVA, N.A. SERGEYEVA, N.A., redaktor izdatel'stva; GORDIYENKO, Ye.B., tekhnicheskiy redaktor

[Methods in chemical analysis of mineral ores] Metody khimicheskogo analiza mineral'nogo syr'ia. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geologii i okhrane nedr. No.1. 1955. 77 p. (MLRA 9:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy insitut mineral'nogo syr'ya.
(Ores--Analysis)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

MEYKE, Viktor Aleksandrovich; TITOV, V.I., redaktor; VERSTAK, G.V., redaktor izdatel'stva; KRYNOCHKINA, K.V., tekhnicheskiy redaktor

[Manual for laboratory technicians of a laboratory of analytical chemistry] Rukovodstvo dlia preparatorov khimiko-analiticheskikh laboratorii. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1956. 247 p. (MLRA 9:8)
(Chemistry, Analytical) (Mineralogy, Determinative)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

KNIPOVICH, Yu.N., redaktor; SOKOLOV, I.Yu., redaktor; SOCHEVANOV, V.G., redaktor; TITOV, V.I., redaktor; SHMANENKOV, I.V., redaktor KOLOSKOVA, M.I., redaktor; PEN'KOVA, S.A., tekhnicheskiy redaktor

[Chemical and physico-chemical methods of analyzing mineral ores] Khimicheskie i fiziko-khimicheskie metody analiza mineral'nogo syr'ia. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po geologii i okhrane nedr, 1955. 191 p. (MIRA 9:4)

1. Vsesoyuznoye soveshchaniye rabotnikov khimiko-analiticheskikh laboratoriy.
(Ores--Sampling and estimation)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

FEYNBERG, S.Yu.; ALIMARIN, I.P., professor, doktor, retsenzent; SOCHEVANOV, V.G., kandidat khimicheskikh nauk, retsenzent; TITOV, V.I., kandidat khimicheskikh nauk, retsenzent.

[Analysis of ores of non-ferrous metals] Analiz rud tsvetnykh metallov. 2. ispr.i dop. izd. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1953. 832 p. (MLRA 7:4)
(Assaying)

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CA

1

Polarography vessel. V. I. Titov. *Zavodskaya Lab.* 15, 747(1949).—The polarographic vessel is of inverted pear shape and is provided with a gas bubbling tube, buret, and Hg dropper inserted from the upper portion. The narrow bottom terminates in the Pt contact wire while an agar bridge is connected to the sidewall of the vessel near the bottom, with a porous diaphragm for sepn. The shape is suitable for work with large or small amts. of solns. G. M. Kosolapoff

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

Rubber Abstracts

Synthetic Rubber and Allied Products

Chlorine-resistant apparatus. V. I. [illegible] (U.S.S.R.P. 68441, Chem. Abs., 1949, 43, 6387). The apparatus is made by the usual [illegible] processes of calcium, strontium or barium fluoride, to which is added 5 to 10% of low melting fluoride, [illegible] lead. The dry components are moved with [illegible] or a solution of synthetic rubber in petroleum [illegible] the moulded products are fired at a temperature [illegible] the melting point of the low melting fluoride. [illegible]

1949

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

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Vessel for Polarography. V. I. Titov. (Zavodskaya Laboratoriya, 1949, vol. 15, June, p. 747). [In Russian]. A design of container is proposed which is said to be equally suitable for polarography and for amperometric titration.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

4

Refining magnesium with the use of a flux. V. I. Titov. *Legkie Metal.* 1, No. 12, 29-34(1932); *Chem. Zentr.* 1934, I, 928.—A review. The American and German processes are described, the nature and action of a flux explained, and units of equipment for Mg refining in elec. resistance furnaces (the Russ system) considered.

W. A. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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Chlorine-resistant apparatus. V. I. Titov. U.S.S.R. 68,441, May 31, 1947. The app. is made by the usual ceramic processes of Ca, Sr, or Ba fluoride to which is added 5-10% of low-melting fluorides, e.g., of Pb or Li. The dry components are mixed with H_2O or a soln. of synthetic rubber in benzine, and the molded products are fired at a temp. below the m.p. of the low-melting fluorides.

M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

L 52[illegible]-65 [illegible]

ACCESSION NR: AT5019687 UR/2667/64/000/025/0003/0019

AUTHOR: Titov, V. I.

TITLE: Repetition rate and the continuous duration of the lower cloud boundary below 200 m over the European territory of the SSSR

SOURCE: Moscow. Nauchno-issledovatel'skiy institut aeroklimatologii. Trudy, no. 25, 1964. Voprosy aviatsionnoy klimatologii (Problems in aviation climatology), 3-19

TOPIC TAGS: low cloud level, low cloud repetition rate, cloud boundary, cloud formation

ABSTRACT: Numerous modern aircraft cannot take off or land in the presence of lower cloud boundaries below 100 m. While V. M. Mikhel' described the repetition rate of low cloudiness over the territory of the SSSR quite thoroughly (see, e.g., Tr. GGO, no. 26, 1954) and V. Ya. Lobanova and M. V. Sokolova studied the repetition rate of the lower boundary of clouds in the zone of atmospheric fronts (Tr. NIIAK, no. 5, 1958), there are still only scattered data concerning the low altitude cloud stability in relation to height and time. The present author considers the results of hourly meteorological observations over the 1954-1958 period

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L 62967-65

ACCESSION NR: AT5019687

(for Moscow 1952-1958) and presents figures and tables describing variations (over 1 and 3 hour periods) of lower [illegible], the differential distribution of the lower repetition rate (up to 300 m) for Leningrad, Moscow, Khar'kov, and Donetsk, the comparison of the calculated and observed repetition rate of the lower boundary altitude for different months in Leningrad, Riga, Vilnius, Moscow, Khar'kov, Kiev, L'vov, Donetsk, and Odessa, the repetition rate of lower boundary altitudes according to wind velocities, and probabilities of continuous duration of the lower cloud boundary at altitudes below 300 m. Processed data presentations are supplemented by extensive discussions of the results. Orig. art. has: 6 formulas, 7 figures, and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut aeroklimatologii, Moscow (Scientific-Research Institute of Aeroclimatology)

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OTHER: 000 ENCL: 00

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L 62477-65 EWT(1)/EWG(v)/FSC TW

ACCESSION NR: AT5019690 UR/2663/64/000/025/0041/0057

AUTHOR: Titov, V. I.

TITLE: The repetition rate and the continuous duration of the horizontal visibility level over the European territory of the SSSR

SOURCE: Moscow. Nauchno-issledovatel'skiy institut aeroklimatologii. Trudy, no. 25, 1964. Voprosy aviatsionnoy [illegible] (Aviation Climatology), 41-57

TOPIC TAGS: horizontal visibility estimates, visibility repetition rate, atmospheric visibility

ABSTRACT: There are only scant data in the scientific literature concerning the stability and repetition rate of horizontal visibility. The Nauchno-issledovatel'skiy institut aeroklimatologii (Scientific-Research Institute of Aeroclimatology) is carrying out extended hourly [illegible] relationships between visibility and atmospheric [illegible] dew point deficit. The first [illegible] and their relation with the fog repetition rate was carried out by N. K. Klyukin and S. A. Sapozhnikova (Tr. NIIAK, no. 11, 1963). The present [illegible] in detail the distribution of the repetition rate [illegible] as a function of various

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L 62477-65

ACCESSION NR: AT5019690

2

atmospheric occurrences and wind velocity at 14 points over the European territory of the Soviet Union: Leningrad, Riga, Vilnius, Minsk, Moscow, Gor'kiy, Kuybyshev, Kursk, L'vov, Kiev, Khar'kov, Donetsk, Odessa, Rostov-on-Don. In addition, it discusses the [illegible] for Moscow. The comprehensive tabulated and [illegible] data are omitted by extensive discussions of the results. Results show that below 2 km visibility must be taken seriously into consideration by control towers only during the November-March period. [illegible] at wind velocities below 5 m/sec. Visibility statistics characteristics are best extracted by calculative means. Orig. art. has: 1 formula, 6 figures, and 5 tables.

ASSOCIATION: [illegible]

tific-Research Institute of Aeroclimatology)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

TITOV, V.I.

Posiibility of complex meteorological conditions on the European part of the Union caused by baric formations. Uch. zap. MOPI 124: 337-350 '63. (MIRA 18:6)

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Titov, Valeriy Ivanovich

SUVOROVSKAYA, Natal'ya Aleksandrovna; TITOV, Valeriy Ivanovich; BRODSKAYA, Valentina Mikhaylovna; VASIL'YEV, Pavel Ivanovich; LIPSHITS, Bella Moiseyevna; ELENTUKH, Mariya Pavlovna; TROITSKAYA, M.I., kand.tekhn. nauk, retsenzent; POMERANTSEV, I.N., kand.tekhn.nauk, retsenzent; KOZHUKHOVA, M.A., kand.tekhn.nauk, retsenzent; VAGINA, N.S., red.; KOSOLAPOVA, E.F., red.izd-va; VAYNSHTEYN, Ye.B., tekhn.red.

[Technical analysis in nonferrous metallurgy] Tekhnicheskii analiz v tsvetnoi metallurgii. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 567 p. (MIRA 11:2)
(Nonferrous metals--Metallurgy)

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ZHELEZNOVA, Ye.I.; SOCHEVANOV, V.G.; TITOV, V.I.; DERZHAVINA, N.G., red. izd-va; IYERUSALIMSKAYA, Ye.S., tekhn. red.

[Methods for the determination of radioactive elements in minerals] Metody opredeleniia radioaktivnykh elementov v mineral'nom syr'e. Sost. E.I.Zheleznova, V.G.Sochevanov, V.I. Titov, Izd.2., dop. i perer. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1961. 147 p. (MIRA 14:10)
(Minerals) (Radioactive substances)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

TITKOV, VASILIY IVANOVICH

Gosudarstvennyy stroy Mongol'skoy Narodvoy Respubliki. Moskva, Gosyurizdat, 1961.
90 p. diagrs. (Gosudarstvennyy Stroy Stran Mira)

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TITOV, V.I.; OSIKO, Ye.P.

Photometric determination of small amounts of uranium with arsenazo after the separation of hexavalent uranium with α-nitroso-β-naphthol in the presence of complexon III. Zhur.anal.khim. 17 no.1:129-131 Ja-F '62. (MIRA 15:2)

(Uranium--Analysis)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

BRUDZ', V.G.; TITOV, V.I.; OSIKO, Ye.P.; DRAPKINA, D.A.; SMIRNOVA, K.A.

Sulfonazo as a reagent for the determination of scandium. Zhur.-anal.khim. 17 no.5:568-573 Ag '62. (MIRA 16:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv i Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya, Moskva.
(Scandium--Analysis) (Sulfonazo)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

FAYNBERG, Solomon Yul'yevich; FILIPPOVA, Nina Aleksandrovna; KLIMENKO, Yu.V., kand. tekhn.nauk, retsenzent [deceased]; PAKHOMOVA, K.S., kand. tekhn.nauk, retsenzent; TITOV, V.I., red.; ARKHANGEL'SKAYA, M.S., red.izd-va; DOBUZHINSKAYA, L.V., tekhn. red.

[Analysis of nonferrous metal ores] Analiz rud tsvetnykh metallov. 3., ispr. i dop. izd. Moskva, Metallurgizdat, 1963. 871 p. (MIRA 16:10)

(Nonferrous metals--Analysis)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

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ACCESSION NR: AR4047586 S/0169/64/000/009/B020/B020

12

B

AUTHOR: Titov, V. I.

TITLE: Probability of complex meteorological conditions in the European part of the SSSR caused by pressure formations

SOURCE: Ref. zh. Geofizika, Abs. 9B163

CITED SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 124, 1963, 337-350

TOPIC TAGS: meteorology, atmospheric pressure, cloud, cloud height, meteorological visibility, atmospheric front, atmospheric advection

ABSTRACT: On the basis of hourly meteorological observations at 14 meteorological stations during the years 1954-1958 (and at Moscow in 1952-1958), analyzed by computers, the author has determined the probability of the recurrence of complex meteorological conditions in the European SSSR (cloud height less than 200 m, visibility less than 2 km). In order to decrease the influence of random errors by an increase in the number of observations, the entire range of meteorological conditions was characterized through a cloud height of less than 300 m and visibility less than 4 km, which show the same variation as the poorer conditions. Complex conditions in the European part of the SSSR are caused for the most part by

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advective processes. Recurrence of cloud heights of less than 300 m and visibility of less than 4 km is observed only 50-67% as often as the recurrence of cyclonic formations. With a probability of 70%, complex weather conditions develop as a result of passage of atmospheric fronts, but such weather on fronts occurs in only 35% of all cases of frontal weather. In the Leningrad area in winter, despite frequent cyclonic situations and their maximum stability, a cloud height of less than 300 m and visibility less than 4 km are observed considerably less frequently than in any other part of the European SSSR. Z. Makhover

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KUDRYAVTSEVA, N.K.; TITOV, V.K.

Emergency surgery in elderly and senile persons based on materials of the Sverdlovsk Surgical Clinic for 10 years. Trudy Inst. im. N.V. Sklif. 9:30-37 '63. (MIRA 18:6)

1. Kafedra gospital'noy khirurgii Sverdlovskogo meditsinskogo instituta (zav.- chlen-korrespondent AMN SSSR zasluzhennyy deyatel' nauki, prof. A.T. Lidskiy).

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PA 197T88

TITOV, V. K.

USSR/Metals - Cast Iron, Heat Treatment Sep 51

"Effect of Preliminary Hardening Conditions on Graphitization of White Cast Iron," V. K. Titov, Engr, Nikolayev Shipbldg Inst

"Litey Proiz" No 9, pp 19-22

Investigation was conducted to reveal effect of heating temp, holding period and quenching medium temp on graphitization of white cast iron. Hardening from max possible temp and min holding time are necessary for max rate of graphitization in annealing process. Quenching into media heated to temp above martensitic point does not accelerate graphitization on annealing.

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TITOV, V. K.

Influence of structurally free cementite on graphitization of chilled cast iron. V. K. Titov. *Liteinoe Proizvodstvo* 1952, No. 10, 20-1.—White iron castings contg. 3.02% C, 0.51 Si, 0.42 Mn, 0.10 S, 0.078 P were heated at 1000° for 1-24 hrs. and water quenched. Tempering them at 500° for 45 min. and analyzing for carbidic ppt. showed a larger amt. of it than theoretically expected, even after a 24-hr. treatment. Annealing the quenched specimens for 8 hrs. at 1000°, followed by air cooling decompd. all structurally free cementite, and the subsequent graphitization of pearlite for 30 min. at 700° indicated that graphitization velocity increases with the higher concn. of free cementite in the quenched specimens. A table presents the relations found as a function of the no. of graphitic inclusions, hardness, coercive force, and the percentage of carbidic inclusions. Diffusion of C in quenched iron is lowered by a rapid spheroidization of pearlite. Samples normalized before the second phase of graphitization had their pearlite completely decompd. while those quenched before this stage exhibited a fully normal pearlite. J. D. Gat

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TITOV,V.K.; MOYSEYENKO,O.S.

Effect of hardening and tempering on the mechanical properties of white pig iron. Dop. AN URSR no.2:160-164 '55. (MLRA 8:11)

1. Mikolaivs'kiy sudnobudivnaiy institut. Predstaviv diysnaiy chlen Akademii nauk URSR V.M. Svechnikov.
(Cast iron--Metallurgy)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

SOV/21-59-3-13/27

AUTHORS: Titov, V.K., and Makarov, Ye.F.

TITLE: The Effects of Graphite Dispersion and Heat Treatment on the Mechanical Properties of Cast Iron Under an All-Round Uneven Pressure (Vliyanie razmerov grafita i termicheskoy obrabotki na mekhanicheskiye svoystva serogo chuguna v usloviyakh vsestoronnego neravnomernogo szhatiya)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 3, pp 286-289 (USSR)

ABSTRACT: Using the method of academician B.D. Grozin /Ref 1/, the authors studied the effects of the dispersity of graphite and heat treatment on the mechanical properties of cast iron under conditions of soft loading, that imitated the practical contact application of loads. Experiments were made on 10, 15, 20 and 30 mm in diameter cast iron cylinders cast in the ground. They consisted of 3.35% C, 1.80% Si, 0.48% Mn, 0.120% P, 0.185% S, and had a hardness of 101, 100, 95 and 90 units. Microstructurally, cast

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SOV/21-59-3-13/27

The Effects of Dispersion of Graphite and Heat Treatment on the Mechanical Properties of Cast Iron Under an All-Round Uneven Pressure

iron showed graphite in lamellar form, evenly spread over the surface. The 10 and 15 mm diameter specimens contained small quantities of structurally-free cementite and perlite matrixes. The 20 mm specimen had a perlite structure and the 30 mm specimen contained about 3% of ferrite. The 30 minute-long heating up to 950°C for hardening or normalization, was made in a barium-chloride bath. The cooling was done in 20°C water. Experiments showed, that reducing the size of graphite increases the value of the stresses ; causing equal deformations. Heat treatment is most effective with cast iron containing fine graphite. There are 3 graphs, 2 tables and 3 Soviet references.

ASSOCIATION: Nikolayevskiy sudostroitel'nyy institut (Nikolayev Shipbuilding Institute)

PRESENTED: July 30, 1958, by V.N. Svechnikov, Member of the AS UkrSSR

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

18(3) SOV/21-59-3-14/27

AUTHORS: Lagutin, V.P., and Titov, V.K.

TITLE: A Study of Residual Stresses in Cast Iron Hardening (Izucheniye ostatochnykh napryazheniy pri zakalke chuguna)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 3, pp 290-293 (USSR)

ABSTRACT: The authors studied the interdependence among 1) the value of longitudinal residual stresses arising when hardening of cast iron, 2) the hardening medium and 3) the graphite dispersity. They employed the formula

$$= \frac{d}{df} \quad E \text{ K /mm}^2,$$

wherein is the area of cut left over after facing, is a derivative, is relative change

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SOV/21-59-3-14/27

A Study of Residual Stresses in Cast Iron Hardening

of length after facing, [illegible] is cut off area, E is modulus of elasticity = 1.10^4 kg/mm^2. The cast iron used in examinations was of two sorts, one containing 2.90% C, 1.80% Si, 0.70% Mn, 0.158% P, 0.92% S, another containing 3.35% C, 1.88% Si, 0.66% Mn, 0.110% P and 0.100% S. The specimens were 60 mm long, 25 mm in diameter. Heating for hardening was done in a salt bath, and lasted 20 minutes. After hardening in water and oil, the hardness in the cross cut reached 48-50 units Rc. The cast iron's graphite was small, lamillar, rectilinear, with local turbulences. The examination showed that the nature of stress distribution was complex, and changed its sign several times. The presence of tensile stresses on the surface of the specimens could be explained by the predominance of structural stresses. The decrease of graphite dispersity diminished the tensile stresses. A rise in the temperature

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A Study of Residual Stresses in Cast Iron Hardening SOV/21-59-3-14/27

of hardening in water instead of oil increased the stresses. There are 3 graphs, 1 table and 10 Soviet references.

ASSOCIATION: Nikolayevskiy sudostroitel'nyy institut (Nikolayev Shipbuilding Institute)

PRESENTED: August 5, 1958, by V.N. Svechnikov, Member of the AS UkrSSR

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

18(SOV/21-59-4-12/27

AUTHORS: Titov, V.K. and Vanin, V.S.

TITLE: A Study of the Electrical Resistance of Cast Iron at High Temperatures

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 4, pp 396-399 (USSR)

ABSTRACT: The article briefly reports on a study of the influence of graphitization of white and gray cast iron upon electrical resistance at high temperatures. White cast iron contained 2.85% C; 1.03% Si; 0.41% Mn; 0.051% P and 0.064% S. Gray cast iron contained 3.20% C; 2.21% Si; 0.44% Mn; 0.23% P and 0.11% S. Specimens for the study were of plate form 120x5x0.8mm. Electric resistance was measured by potentiometer PP-1 (at heating and cooling) and by device IPTB-1 (during the isothermic treatment). Figures 1-2 show the dependence of specific electrical resistance upon temperature. Figures 3 and 4 show the dependence of specific electrical resistance upon tempera-

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

SOV/21-59-4-12/27

A Study of the Electrical Resistance of Cast Iron at High Temperatures

ture and isothermic soaking. Experiments showed the invariability of the electrical resistance of white cast iron in the course of graphitization of eutectic cementite at temperatures above the critical point. In the author's opinion, this is accounted for by a close similarity of the values of the electrical resistance of cast iron phases at high temperatures. At temperatures below the critical point, the lower is the temperature at which "p" of cast iron is determined, the more pronounced is the decrease in electrical resistance due to graphitization. There are 4 graphs and 5 references, 4 of which are Soviet and 1 German.

ASSOCIATION: Nikolayevskiy sudostroitel'nyy institut (Nikolayev Shipbuilding Institute)

PRESENTED: By V.N. Svechnikov, Member of the AS UkrSSR

SUBMITTED: July 30, 1958

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APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

TITOV, V.X.; LAGUTIN, V.P.

Errors in determining residual stresses in annealed gray iron by the mechanical method. Zav. lab. 25 no.1:99-100 '59. (MIRA 12:1)

1.Nikolayevskiy korablestroitel'nyy institut imeni admirala S.O. Makarova.

The investigations of the subject mentioned in the title were carried out according to the method of the determination of longitudinal residual stresses (occurring in hardening) (Ref 1). The method is based on the successive removal by turning of the surface layers from the specimen as well as on the determination of sample-length variation caused by disturbance of the state of stress. In order to ascertain the mean square error of determination the length and diameter of the sample were measured 20 times after each turning. The relative sample-length variation after turning is given to be

$$\lambda = \frac{L_{turned} - L_{not\ turned}}{L_{calculated}}$$

On the application of the equations mentioned it is stated that at 13 layer removals $\Delta\sigma$ shows a mean arithmetic value of $\pm$ 0.28 kg/mm^2. It may be assumed that the mechanical method of stress determination is very accurate.

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S/129/60/000/04/013/020
E073/E535

18.7100

AUTHORS: Vanin, V.S., Engineer and Titov, V. K., Candidate of Technical Sciences

TITLE: Carburization of Steel in Liquid Organic Media

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No 4, pp 51-53 (USSR)

ABSTRACT: The authors verified the assumption expressed by Moszczynski and Matuia (Ref 1) of a specific effect of high frequency currents on the acceleration of carburization and nitriding. Furthermore, they investigated the influence of the carburization regime on the depth of the carburized layer and they compared the effectiveness of various organic media from this point of view. For carburization specimens of the Steel 10 were used, for nitriding specimens of the steel 30KhMYuA were used. The specimens, 2 mm dia, 60 mm long, were placed into a liquid medium and heated by passing through them a current of 60 to 90 A of the normal supply frequency. In some of the experiments the heating was done by means of direct current. The

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E073/E535

Carburization of Steel in Liquid Organic Media

temperature was measured by means of an optical pyrometer OPPIR-09. The authors succeeded in stabilizing the vapour shell around the specimens and to achieve uniformity of the heating of the reference sections of the specimens by placing these into quartz tubes, the internal diameter of which was 2 to 3 mm larger than the diameter of the specimens. The influence of the heating temperature of steel in benzol on the depth of the carburized layer for a holding time of 7 mins is shown in the graph, Fig 1. A rapid increase of the thickness of the layer with increasing temperature was observed; in Fig 2 a typical microstructure of the diffusion layer is reproduced and it can be seen that the transition from one zone of the layer to the other is relatively sharp. If the carburization is carried out at temperatures above 1100°C for 3 to 4 mins, the external zone of the case-hardened layer will assume a ledeburitic structure (Fig 3) and if it is held at this temperature for 7 mins,

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Carburization of Steel in Liquid Organic Media

the ledeburitic structure will extend throughout the cross-section of the specimen. Carburization at 1200°C for 3 to 4 minutes terminates by fusion of the specimen; in this case a ledeburitic structure will be obtained throughout. Formation of the ledeburitic structure above 1100°C can be explained by fusion of sections, the fusion temperature of which decreases as a result of carbon enrichment. Carburization at 800°C yields a thin layer of eutectoidal and hypereutectoidal composition of a depth of 50 to 70 μ. No hypereutectoidal zone will form in the layer in this case. The dependence between the depth of a carburized layer and the duration of the process for 100°C is graphed in Fig 4. As a result of carburization in benzol, a very thin paper texture layer of a dark carbon forms on the surface which can be easily removed by rubbing and this reveals the smooth surface of the metal. D.C. heating at 1000°C with benzol for 7 mins yields the

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E073/E535

Carburization of Steel in Liquid Organic Media

same results; the depth of the carburized layer was 0.48 to 0.53 mm. Carburization at 1000°C for 7 mins in toluol and ethyl alcohol permits obtaining a layer of a depth equal to that obtained in benzol. Use of aviation benzol or kerosene yields poorer results and thinner layers up to 0.4 mm; at the surface of the specimen a relatively thick soot layer forms which impedes penetration to the surface of the active carbon and thereby reduces the depth of the carburized layer. If this process is carried out in ethyl ether at 1000°C for 5 mins, the depth of the layer is 0.25 mm. Heating of the specimens in glycerine does not produce carburization or decarburization of the surface. In aniline specimens were heated to 950°C; the depth of the diffusion layer reached 0.4 mm and there was no hypereutectoidal zone in the layer, Fig 5. It can be assumed that under these conditions cyaniding of the steel took place. Nitriding in a 25% aqueous solution

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E073/E535

Carburization of Steel in Liquid Organic Media

of ammonia at 600°C for 25 mins yielded a 0.12 mm thick layer. The following conclusions are arrived at:
1. Acceleration of the processes of carburization and nitriding in the case of heating steel in liquid media using electric current is not related to the specific effect of the high frequency current. The data obtained by Moszczynski and Matuia (Ref 1) are in agreement with the here described experimental results in which the current was fed directly to the specimens.
2. The most suitable liquids for carburization are benzol or ethyl alcohol.
There are 5 figures and 2 references, 1 of which is Soviet and 1 Polish.

(Note: This is a slightly abridged translation).

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

BILIBINA, T.V.; DONAKOV, V.I.; TITOV, V.K.

Hydrothermal uranium mineralization associated with alkali intrusive complexes. Geol. rud. mestorozh. 5 no.5:35-54 S-O '63. (MIRA 16:11)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

TITOV, V.K.; VANIN, V.S.

Effect of hardening on the graphitization of isolated cementite. Lit. proizv. no.11:41-42 N '60. (MIRA 13:12)
(Cast iron--Hardening)

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PHASE I BOOK EXPLOITATION SOV/5511

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.

Metallovedeniye i termicheskaya obrabotka (Physical Metallurgy and Heat Treatment of Metals) Moscow, Mashgiz, 1961. 355 p. Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov UkrSSR. Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.

Editorial Board: M. P. Braun, Doctor of Technical Sciences, I. Ya. Dekhtyar, Doctor of Technical Sciences, D. A. Dragor, Doctor of Technical Sciences, I. S. Kamenichnyye, Engineer, Ye. A. Markovskiy, Candidate of Technical Sciences, V. G. Pennyakov, Doctor of Technical Sciences, and A. V. Chernovol, Candidate of Technical Sciences; Ed.: M. S. Soroka; Tech. Ed.: M. S. Gorncstaypol'skaya; Chief Ed., Mashgiz (Southern Dept.): V. K. Serdyuk, Engineer.

Card 1/10

PURPOSE: This collection of articles is intended for scientific workers and technical personnel of research institutes, plants, and schools of higher technical education.

COVERAGE: The collection contains papers presented at a convention held in Kiyev on problems of physical metallurgy and methods of the heat treatment of metals applied in the machine industry. Phase transformations in metals and alloys are discussed, and results of investigations conducted to ascertain the effect of heat treatment on the quality of metal are analyzed. The possibility of obtaining metals with given mechanical properties is discussed, as are problems of steel brittleness. The collection includes papers dealing with kinetics of transformation, heat treatment, and properties of cast iron. No personalities are mentioned. Articles are accompanied by references, mostly Soviet.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

TITOV, V.K.; MAKAROV, Ye.F.

Diffusion saturation of iron and steel by tin and antimony. Metalloved. i term. obr. met. no.8:18-22 Ag '61. (MIRA 14:8)

1. Nikolayevskiy korablestroitel'nyy institut i Odesskoye vyssheye inzhenernoye morskoye uchilishche.
(Case hardening)

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S/021/62/000/001/007/007
D251/D303

AUTHORS: Titov, V.K., and Makarov, Ye.F.

TITLE: On the mechanism of metal siliciding

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 1, 1962, 50 - 53

TEXT: On the basis of thermodynamic experiments and calculations the authors discuss the siliciding of iron, copper and nickel in the vapor phase. The experimental process is carried out in a two-zone furnace, the gas phase consisting of a mixture of $SiCl_4$ with argon at partial pressure 0.263 at. In the first zone of the furnace at temperature t_1 it is assumed that the reaction I. $SiCl_4$ (gas) + Si (solid) = $2SiCl_2$ (gas) takes place. For the second zone at temperature $t_2 \leqslant t_1$, the following reactions are proposed: II. $2SiCl_2$ + x Me (solid) = Si (alloyed with Me) + $SiCl_4$ (gas); III. $SiCl_4$ (gas) + b Me (solid) = $SiCl_2$ (gas) + Me_2Cl_2; IV. $SiCl_2$ (gas) + x Me (solid) = Si (alloyed with Me) + Me_bSl_2 (gas); V. $SiCl_4$ (gas) + xMe (solid) = Si (alloyed with Me) + Me_bCl_2 (gas) [Abstrac-

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32418

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D251/D303

On the mechanism of metal siliciding

tor's note: Me_2 is erroneously written for Me_b in II in the text]. By chemical and X-ray analysis, it is shown that in the case of iron, V is most important (giving up to 78 % Si) and in the case of nickel it is less important (up to 50 % Ni). II second stage and IV are more important for nickel (10 - 50 % Si) than for iron (10 - 15 % Si). In the case of copper, the first stage of II is of the greatest importance. There is 1 table and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The reference to the English-language publication reads as follows: F.D. Rossini and oth., Selected Values of Chemical Thermodynamic Properties, Part 1, Circular of the National Bureau of Stand., 1952, 50.

PRESENTED BY: I.M. Frantsevich, Academician AS UkrSSR

SUBMITTED: May 22, 1961

Card 2/2

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

S/080/62/035/008/001/009
D202/D308

AUTHORS: Titov, V.K., and Makarov, Ye.F.

TITLE: The coating of iron and steel with aluminum by vacuum evaporation

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 8, 1962, 1748-1752

TEXT: The authors present the results of their study of this process, stating that their method possesses the following advantages over conventional aluminizing processes: 1) The percentage of Al in the diffusion layer is lower, 2) the coated surface remains plastic and the thickness of the deposit can be controlled precisely, 3) the surface is clean and even and the volume increase of coated tools is very small. The method requires however a complicated and expensive equipment. The depth of the diffusion layer varies between 200 and 230 μ; the Al content is up to 7 %; the increase of temperature markedly increases the Al content; the distribution curve of Al in the layer has two branches corresponding to Al diffusion into α - and β - Fe. The lowering of vacuum from 3 x 10-5 to

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3×10^{-2} mm Hg has no appreciable effect, high carbon steels absorbing less Al than Armco iron. The short term oxidation resistance at 900°C, of iron and steel treated by this process has been improved by a factor of 9-12. There are 5 figures and 3 tables.

SUBMITTED: July 18, 1961

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755910005-8

S/123/62/000/018/010/012
A006/A101

AUTHORS: Vanin, V. S., Titov, V. K.

TITLE: Steel cementation in liquid organic media

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 18, 1962, 20, abstract 18B124 (In collection: "Metallovedeniye i term. obrabotka", Moscow - Kiyev, Mashgiz 1961, 225 - 228)

TEXT: An experimental investigation was carried out to check the assumption on the specific effect of high-frequency current upon the acceleration of diffusion saturation in cementation and nitriding in liquid media. Simultaneously the effect of cementation conditions on the depth of the layer obtained was studied and the efficiency of using various organic media was compared. The results obtained show that the rate of cementation and nitriding processes was equal in both the use of heating by high-frequency current and passing commercial-frequency and direct current through the specimens. Benzene and ethyl alcohol were found to be the liquids most suitable for cementation.

[Abstracter's note: Complete translation] V. Dusman

Card 1/1

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S/137/62/000/008/055/065
A006/A101

AUTHORS: Vanin, V. S., Titov, V. K.

TITLE: Cementation of steel in liquid organic media

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 137, abstract 8I939 (In collection: "Metallovedeniye i term. obrabotka", Moscow-Kiyev, Mashgiz, 1961, 225 -228)

TEXT: The present investigation was made to check the assumption on the specific effect of high-frequency current on acceleration of cementation and nitriding; the effect of cementation conditions in various media upon the cementation depth was also studied. Grade 38 XMIOA (38KhMYuA) steel specimens were placed in a liquid medium (toluene, benzine, kerosene, benzene, etc) and heated to 800 - 1,200°C by passing 60 - 90 amp commercial frequency current through the specimens. Nitriding was performed in 25% NH_3 solution at 600°C for 25 minutes and produced a 0.12 mm layer. Benzene and ethyl alcohol were found to be the most suitable liquids for cementation. The acceleration of cementation and nitriding processes by heating in liquid media with the aid of electric current is not connected with a specific effect of high frequency current.
[Abstracter's note: Complete translation] A. Babayev

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TITOV, V.K.; MAKAROV, Ye.F.

Effect of the selection of the halide on chrome plating. Zhur. prikl. khim. 36 no.4:800-806 Ap '63. (MIRA 16:7)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche.
(Iron alloys) (Chromium plating)
(Halides)

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