"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

L 48340-65
ACCESSION NR: AP5009498

12

related to the study of seismic processes. The session in Ashkhabad was reported by L. P. Zaitsev, candidate of physico-mathematical sciences. It started with the paper of M. A. Sadovskiy who described the problems of earthquake forecasting. K. K. Mashrykov and A. A. Dzabayev presented new information on the deep structure of Western Turkmenistan. L. N. Smirnov described the general structural history of the Alpian-Himalayan mobile belt and the adjacent transition zone. I. N. Ovchinnikov reported to the Presidium the results of the Tashkent session at which V. V. Belousov presented the paper "Earth crust and the upper mantle of continents." A. S. Uklonskiy discussed the origin of natural sulfur. A. A. Malakhov described the metallogenic peculiarities and types of the Uzbek ores. N. D. Vol'fson, V. G. Gar'kovets, and A. G. Khvalovskiy analyzed the application of geochemical and geophysical methods to exploration. The Presidium of the Academy of Sciences SSSR approved the work of the Department of Earth Sciences, presented its resolutions, and expressed its gratitude to Academician A. P. Vinogradov, the secretary of the Department, and to the members of the organisation committee.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: ES
NO REF SOV: 000 OTHER: 000

Card 5/5

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

VINOGRADOV, A.P., akademik; SADOVSKIY, M.A.; AKHMEDSAFIN, U.M., akademik; GERASIMOV, I.P., akademik; YANSHIN, A.L., akademik; SHCHERBAKOV, D.I., akademik; PEYVE, A.V., akademik; ZAYTSEV, L.P., kand.fiz.-matem.nauk; OVCHINNIKOV, I.M.

Development of earth sciences in Central Asia and Kazakhstan; results of the out-of-town session of the Department of Earth Sciences. Vest.AN SSSR 35 no.3:128-150 Mr '65. (MIRA 18:4)

1. Chlen-korrespondent AN SSSR (for Sadovskiy). 2. AN Kazakhskoy SSR (for Akhmedsafin).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

L 33677-66 EWP(m)/EWT(1) WW

ACC NR: AP6013893 SOURCE CODE: UR/0020/66/167/006/1253/1255

AUTHOR: Sadovskiy, M. A. (Corresponding member AN SSSR); Adushkin, V. V.; Rodionov, V. N.

ORG: Institute of Soil Physics im. O. Yu. Shmidt AN SSSR (Institut fiziki zemli AN SSSR)

29

TITLE: Simulation of large ejection explosions

SOURCE: AN SSSR. Doklady, v. 167, no. 6, 1966, 1253-1255

TOPIC TAGS: explosive charge, mining engineering

ABSTRACT: The properties of the crushed ore are determined by the density ρ, the coeeficient of internal friction k, and a parameter σ, which has the dimensions of stress and which characterizes the bond between the ejected ore and the main ore body. The initial conditions are determined by the energy of the gas in the cavity E, the pressure P, and the adiabatic index of the gas γ, and also by the shortest distance w, from the center of the cavity to the exposed surface of the main ore body. The basic parameter of the crater is its radius R, measured at the level of the free surface. Since the explosion takes place in a gravity field, the acceleration due to gravity g, must be

Card 1/2 UDC: 534.222.2

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L 33677-66

ACC NR: AP6013893

included in the parameters determined. Based on these parameters, according to the theory of similarity, the dependence of the radius of the crater on the initial conditions and the properties of the medium being exploded can be written in the form

$$R/w = F_1(E/\rho g w^4;\ E/\sigma w^3;\ R_p/w;\ \gamma;\ k)$$

$$R/w = F_2(P/\rho g w;\ P/\sigma;\ R_p/w;\ \gamma;\ k). \qquad (1)$$

The number of parameters can be reduced if it is taken into account that the work expended against the bonding forces and the lifting energy in the gravity force field should actually be summed. Thus, we get:

$$\frac{R}{w} = F_1(E/(\rho g w^4 + \sigma w^3);\ R_p/w;\ \gamma;\ k). \qquad (2)$$

Calculations with the use of the above formula are compared with actual experimental data from a full scale explosion. Results of the comparison are satisfactory. Orig. art. has: 2 formulas and 3 figures.

SUB CODE: 13/ SUBM DATE: 20Jan66/ ORIG REF: 001/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

RYABCHENKOV, A.S.; ANTONENKO, K.I.; TITOV, N.A.; CHAPOVSKIY, Ye.G.; CHURINOV, M.V.; KONOPLYANTSEV, A.Z.; VIKTOROV, S.V.; VOSTOKOVAYA, Ye.A.; SADOVSKIY, N.D.; KUDELIN, B.I.; OGIL'VI, N.A.; LUNGERSGAUZEN, G.F.; BRODSKIY, \.A.; SHCHERBAKOV, A.V.; POPOV, V.N.; YEMEL'YANOVA, Ye.P.; SOKOLOV, S.S.; BERSENEV, I.I.; GROSHIN, S.I.; MAKKAVEYEV, A.A.; MARINOV, N.A.; YEFIMOV, A.I.; ASSOVSKIY, G.N.; VLADIMIROV, A.G.[deceased]; PROKHOROV, S.P.; FILIPPOVA, B.S., red. izd-va; BYKOVA, V.V., tekhn. red.

[Methodological manual on hydrogeological surveying at the scales of 1:1,000,000 - 1:500,000 and 1:200,000 - 1:100,000]Metodicheskoe rukovodstvo po gidrogeologicheskoi s"emke masshtabov 1:1000 000 - 1:5000 000 i 1:200 000 - 1:100000. Pod obshchei red. A.A.Makkaveeva i A.S.Riabchenkova. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1961. 318 p. (MIRA 15:3)

1. Russia (1923- U.S.S.R.) Ministerstvo geologii i okhrany nedr. (Water, Underground) (Geological surveys)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, N.N.

Ivan Ivanovich Putilin. Biul.VAGO no.17:57-59 '56. (MLRA 9:9)
(Putilin, Ivan Ivanovich, 1893-1954)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, N.V.

Technic of marine and surgical knots. Khirurgiia, Moskva, No.5: 66-73 May 50. (CIML 19:4)

1. Of the Department of Operative Surgery and Topographic Anatomy (Head -- Docent N.V.Sadovskiy), Chkalov Agricultural Institute imeni A.A.Andreyev.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, N. V.

Osnovy topograficheskoi anatomii sel'skokhoziaistvennykh zhivotnykh i kratkii praktikum po operativnoi khirurgii (Principles of topographic anatomy of farm animals and a brief practicum on operative surgery) Moskva, Sel'khozgiz, 1953. 455 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 6, Sep. 1954

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, Nikolay Veniaminovich, prof., doktor veterin.nauk; BIRDINA, A.S., red.; BALLOD, A.I., tekhn.red.

[Topographic anatomy of farm animals] Topograficheskaia anatomiia domashnikh zhivotnykh. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 422 p. (MIRA 13:10)

(Veterinary anatomy)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, O.V.

AID P - 2714

Subject : USSR/Mining

Card 1/1 Pub. 78 - 11/27

Author : Sadovskiy, O. V.

Title : Ten-year experience in the work of maintaining oil-bed pressures in oil deposits of Khadyzhenneft'.

Periodical : Neft. khoz. v. 33, #6, 27-31, Je 1955

Abstract : Secondary oil recovery by injecting air drive for the maintenance of reservoir pressure was introduced in 1945 in the oilfields around Krasnodar. The 10-year experience in applying this method is described.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, P. G.

Sadovskiy, P. G. "Immunity reaction to streptococcous diseases in clinical epidemiological practice," in symposium: Skarlatina i streptokokkovyye infektsii, Leningrad, 1948, p. 67-87 - Bibliog: p. 85-87

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, P. M.

USSR/Chemistry

Card 1/1

Author : Sadovskiy, P. M.

Title : Copper absorber for halides and hydrogen sulfide during their determination in the air

Periodical : Zhur. Anal. Khim, 9, Ed. 1, 58-59, Jan-Febr. 1954

Abstract : The arrangement of the copper absorber is very simple. Eight to 10 g of pure copper filings freed of dust by sifting through a silk sieve or through elutriation in ether are placed in a V-shaped tube 2 - 3 mm internal diameter and the openings sealed with fibrous asbestos. Metallic copper in the form of filings or powder can be used for the extraction of free halides (in the form of homologous salts) from their aqueous solutions. Copper filings can serve as absorbers of J_2 and other halides. By passing air with a H_2S admixture through the copper absorber proved that this absorber is best suitable for the determination of H_2S in the air.

Institution : .....

Submitted : May 20, 1953

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, P.M.

USSR

Copper absorber for halogens and hydrogen sulfide in their determination in air. P. M. Sadovskii. *J. Anal. Chem. U.S.S.R.* 9, 07-8(1954)(Engl. translation).—See *C.A.* 48, 6010c. H. L. H.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, P.M.

Determination of carbon monoxide by contact combustion with copper oxideas catalyzer. Gig. i san. 21 no.9:92-93 S '56. (MIRA 9:10)

1. Iz Armavirskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(CARBON MONOXIDE) (COPPER OXIDES) (AIR--ANALYSIS)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, P.P.

New design of a three-roller paint grinder. Lakokras.mat.i ikh prim. no.3:76-78 '62. (MIRA 15:7)
(Milling machinery)
(Paint industry--Equipment and supplies)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, P.S.

Spring floods in the Kustanay Plain. Priroda 51 no.5:126-127 My '62. (MIRA 15:5)

1. Chelyabinskiy pedagogicheskiy institut.
(Kustanay Province--Floods)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, P.S.

Ice regime of rivers and lakes in the Kustanay Plain. Trudy KazNIGMI no.18:129-133 '63. (MIRA 17:4)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, R.M.

Copper absorbent for halogens and hydrogen sulfide in their determination in air. Zhur.anal.khim.9 no.1:58-59 Ja-F '54. (MLRA 7:2)

(Halogens) (Hydrogen sulfide) (Copper)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, R.V.

CA

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Wilson-chamber experiments at an altitude of 3800 meters above sea level. R. V. Sadovskii, P. A. Cherenkov, I. V. Chuvilo, and L. S. Elg.—*Doklady Akad. Nauk S.S.S.R.* 69, 789-92(1949); cf. Dobrotin and Tsyrlin, *ibid.* 57, 443(1947).—In Pamir expeditions of 1947 and 1948 strongly ionizing particles formed by cosmic radiation were observed in a horizontal Wilson chamber of 10 cm. diam. by 4 cm. high filled under 3.5 atm. pressure with A mixed with H_2O and Et alc. vapor. Sensitivity times were 0.5 sec. (1947) and 0.2-0.3 sec. (1948). In 1948 the chamber was placed in a magnetic field of 5000 gausses, and 7500 films without magnetic field and 7000 with field were examd. On 345 of the 1947 films and 150 of the 1948 films, 386 and 173, resp., isolated strongly ionizing particles were found with tracks longer than α-partical tracks from radioactive contamination. Multiple tracks not proceeding from a single point are attributed to particles from nuclear disintegrations genetically related. Some tracks with abnormally large nos. of δ-electrons are attributed to nuclei of light elements with multiple charges (4-5 e). F. H. Murray

Phys. Inst. im P.N. Lebedev, AS USSR

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

BABUROV, A., student; GLADKOVA, N., studentka; GUTNOV, A., student; ZVEZDIN, A., student; LEZHAVA, I., student; SADOVSKIY, S., student; SUKHANOVA, Ye., studentka; KHARITONOVA, Z., studentka

From the diploma project to the map of Siberia. Tekh.mol. 28 no.7:6-7 '60. (MIRA 13:8)

1. Moskovskiy arkhitekturnyy institut.
(Cities and towns--Planning)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, S. (Novomoskovsk, Tul'skaya oblast'); KOROLEV, A. (Novomoskovsk, Tul'skaya oblast'); BARSKIY, I. (Novomoskovsk, Tul'skaya oblast')

Prophylaxis and more prophylaxis! Okhr. truda i sots. strakh. 5 no.9:25-28 S '62. (MIRA 16:5)

1. Direktor Novomoskovskogo khimicheskogo kombinata (for Sadovskiy). 2. Predsedatel' zavodskogo komiteta Novomoskovskogo khimicheskogo kombinata (for Korolev). 3. Glavnyy vrach mediko-sanitarnoy chasti Novomoskovskogo khimicheskogo kombinata (for Barskiy).
(NOVOMOSKOVSK (TULA PROVINCE)--CHEMICAL INDUSTRIES)--HYGIENIC ASPECTS)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

AID P - 5220

Subject : USSR/Aeronautics - meteorology

Card 1/1 Pub. 135 - 6/26

Authors : Belousov, V. M., Eng.-Lt. Col., Yu. V., Sobolev, Eng.-Maj., and S. M. Sadovskiy, Eng.-Maj.

Title : Our experience in meteorological safeguarding of flights under complex conditions.

Periodical : Vest. vozd. flota, 11, 28-33, N 1956

Abstract : Organization of meteorological service for the safeguarding of flights in Soviet Air Force units is described by the authors. The article is of informative value.

Institution : None

Submitted : No date

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SOV/86-59-1-33/39

AUTHOR: Yefremov, A. Ya., Col, Hero of the Soviet Union, and Sadovskiy, S.M., Engr Lt Col

TITLE: How to Determine More Precisely the Cloud Base? (Kak tochneye opredelit' nizhnuyu granitsu oblachnosti?)

PERIODICAL: Vestnik vozdushnogo flota, 1959, Nr 1, pp 84-85 (USSR)

ABSTRACT: The authors discuss the article Vysota nizhney granitsy oblakov i dal'nost' vidimosti (Cloud Base Altitude and the Visibility Range) by Engr Col V.A. Nikiforov, and Engr Lt Col V.A. Netesov, published in issue Nr 4 of this periodical in 1958. The authors suggest that in addition to pilot balloons, ceiling projectors, and weather reconnaissance airplanes, which are used at present for the measurement of cloud base, a ceilometer should be used.

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

BELOUSOV, V.M., polkovnik tekhnicheskoy sluzhby; SADOVSKIY, S.M., inzh.-podpolkovnik

A correct evaluation of the weather situation is essential. Vest.Vozd. Fl. no.12:45-46 D '60. (MIRA 14:5)
(Meteorology in aeronautics)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, T., inzh.; USAKOVSKIY, V., inzh.

Vibration water lifts. Stroitel' no.2:29 F '61. (MIRA 14:7)
(Pumping machinery)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, T., arkhitektor

Design and construction of river terminal facilities. Rech. transp. 21 no.2:41-44 F '62. (MIRA 15:3)
(Piers) (Hydraulic engineering)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, T.P., slesar'; MARUK, M.F.; VAKULENKO, V.I.; KURILO, I.G.

Modernization of mobile diaphragm pumping units. Suggested by T.P.Sadovskiy, M.F.Maruk, V.I.Vakulenko, I.G.Kurilo. Rats.i izobr.prodl.v stroi. no.12:55-58 '59. (MIRA 13:5)

1. Trest No.5 Mospodzemstroya Glavmosstroya (for Sadovskiy).
2. Gruppa ratsionalizatorov tresta No.6 Mospodzemstroya Glavmosstroya, Moskva, Vetoshnyy per., do.11 (for Maruk, Vakulenko, Kurilo).
(Pumping machinery)

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

COMMON ELEMENTS

Standardization of tempering of alloy steels. A. D. Sadovskij and P. A. Trofimov. *Domez* 1933, No. 1, 18-19.—A study was made of the process of decompn. of austenite in supercooled tool-steel analyzing: C 0.65, W 16.27 and Cr 3.86. Conclusion: For high-speed tool-steel temp. limits for tempering are 720-780° and for Ni-Cr steels, 600-660°. S. L. Madorsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

The structure method of determining the temperature of the beginning of crystallization of martensite (the Ar point). V. D. Sadovskii. *Metallurg* 8, No. 8, 47-55 (1933).—Specimens of plain C and 1% Mn steels were quenched from 950° in oil at 200° for 15 sec. and then held in a furnace at 100°, 200°, 250°, 300°, 350° and 400°. When the specimens became magnetic they were removed from the furnace, air-cooled and examd. for hardness and microstructure. Conclusion: The decompn. of austenite may take place in two ways, depending on whether the specimen is held between the A″ and the A′ points or is cooled below the A″ point. In the 1st case it forms highly dispersed α-Fe and carbides, while in the 2nd case a supersatd. α-soln. mixed with remains of austenite results. Both have a needle-like structure, the 1st probably being cubical martensite and the 2nd tetragonal martensite.

H. W. Rathmann

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Structural determination of the decarburized layer in tool steels. V. D. Sadovskii. *Zavodskaya Lab.* 3, 522-6 (1934).—A discussion with photographs of the results obtained by the method of Hanemann, *et al.*, *C. A.* 26, 2950; 27, 185. **Determination of decarbonization.** G. I. Pogodin. *Ibid.* 526-8.—A preliminary communication.

Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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The structure method of examination of steel heterogeneity. V. D. Sadovskii. *Zavodskaya Lab.* 4, 1083-9 (1935); cf. C. A. 28, 3698[illegible]. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D.

The Significance of New Hardening Methods

Ural Metallurgy 5, 19, 1936

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

S

(10)

Influence of Isothermal Heat Treatment on the Mechanical Properties of Steel. V. D. Sadovsky. (Katshestvennaia Stal, 1936, No. 10, pp. 42–44). The author describes the results obtained in the Slatoust Works with the isothermal hardening and stepped hardening of chromium-nickel steel, as well as those obtained by isothermal tempering. The differences in mechanical properties of the steels hardened isothermally or in steps from those hardened in the usual way are based on differences in the residual content of undissociated austenite. They therefore nearly disappear after the ordinary hardened steel has been subjected to tempering at high temperature, leading to a structure resembling sorbite. The method of isothermal tempering has given uniformly good results in Slatoust when applied to both high-speed and chromium-nickel structural steel. (In Russian).

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Ca

9

The transformation of austenite in chrome-nickel steel. V. D. Sadovskii and N. P. Hoppe. *Ural. Met.* 1937, No. 3, 43-8; *Chem. Zentr.* 1938, I, 3522-3.—Studies are reported on the stability of supercooled austenite or the velocity of its transformation at different temps. in a Cr-Ni steel contg. C 0.33-0.41, Mn 0.5, Si 0.4, Cr 1.2-1.6, Ni 3-3.7, P 0.025 and S 0.025%. Supercooled austenite undergoes transformation in 3 stages, which differ in respect to the velocity of transition as well as in the character of the products formed. The first stage occurs at 675-575°, the austenite being converted into a pearlite-troostite structure. The max. velocity of transition is in the range of 620-50°. From 575 to 475° austenite is extraordinarily stable, only traces of transition products being formed when the steel is held at this temp. for several hrs. The 2nd transition stage is at 475-300°, the max. velocity being in the neighborhood of the martensite point (300°). The 3rd or martensite stage begins somewhat above 300° and continues down to room temp. A partial austenite transition in the 2nd stage essentially lowers the martensite point, while partial transition in the first stage does not displace this point. The amt. of residual austenite depends to a great degree on the cooling conditions in the martensite region. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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SADOVSKIY, V. D. ; SHTISHEVSKAYA, N.V.

The Effect of the Cooling Rate on the Quantity of Residual Austenite

Trudy UFAN 9, 45, 1937

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

ca

9

Apparatus for the determination of C in Fe-C alloys. I. Zyuzin and V. D. Saloyskii. Russ. 55,475, Aug. 31, 1939. Construction details of an app. showing the C content by the change of magnetic properties with temp.

Ni-Cr dental alloy. Erich Heugler and Adolf Walz (to Stahlwerke Röchling-Buderus A.-G.). Ger. 738,747, July 22, 1943 (Cl. 40b, 11). An alloy of C less than 0.50, Mn 0.50-3.00, Si 0.00-3.00, Cr 10.00-25.00, Ni 20-80, Mo 1.00-7.00, Al 0.50-8.00, Cu 0.00-5.00% and the rest Fe plus the usual impurities is used for casting dentures, the elastic hardness of which is attained by pptn. hardening.

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SADOVSKIY, V. D.

Residual Austenite and Its Effect on the Properties of Hardened Steel. Institute of General and Inorganic Chemistry AN SSSR, Moscow, 1939.

So: U-1837, 14 April 52.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3rd AND 4TH ORDERS

19

THE INFLUENCE OF ALLOYING ELEMENTS ON THE POSITION OF THE MARTENSITE POINT, THE AMOUNT OF RETAINED AUSTENITE AND ITS STABILITY ON TEMPERING. V. I. Zyusin, V. D. Sadovskiy and S. I. Baramchuk. (Metalurg, 1939, No. 10-11, pp. 75-80). (In Russian). The authors studied the effect of additions of silicon, manganese, nickel, cobalt, aluminium, copper, chromium, tungsten, vanadium and molybdenum, in amounts varying in some instances up to 8%, on the martensite point, on the amount of retained austenite and on its stability in 0.9-1% carbon steel Manganese, chromium, molybdenum, nickel, copper, tungsten and vanadium lowered the martensite point by 55°, 15°, 30°, 17°, 10°, 12° and 35° C. respectively, for an addition of 1%. Cobalt and aluminium added to a 0.76% carbon steel raised the martensite point by 12° and 30° C. respectively, whilst silicon had no effect. All the elements except cobalt and aluminium raised the amount of retained austenite in the quenched steel, whilst cobalt and aluminium lowered it. Manganese, chromium and silicon had no marked stabilising effect on the retained austenite, but the other elements studied (in amounts up

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to 3%) had only a slight stabilising effect. The carbide-forming elements (chromium, molybdenum, tungsten and vanadium), which produce an intermediate stability zone at 400-600° C. in the isothermal transformation of primary austenite, give in a similar manner the same stability zone in the transformation of retained austenite.

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1ST AND 2ND ORDERS | 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

S 20

The Influence of the Method of Quenching on the Amount of Retained Austenite in Structural Chromium-Nickel Steels. V. D. Sadovskiy and N. P. Chuparkova. (Metallurg, 1939, No. 10–11, pp. 80–89). (In Russian). The authors investigated the effects of different methods of quenching chromium-nickel steels on the amount of retained austenite. Basic open-hearth steels of the following compositions were used in the investigation:

	(1)	(2)	(3)
Carbon, %	0·38	0·40	0·30
Manganese, %	0·42	0·34	0·42
Silicon, %	0·34	0·16	...
Chromium, %	1·38	1·13	1·47
Nickel, %	3·07	3·20	3·6
Phosphorus, %	0·20	0·007	...

The amount of retained austenite was determined by a ballistic method, using as a standard a specimen quenched in ice-cold water and then cooled in liquid air to produce a minimum retained austenite content. Preliminary experiments showed that raising the maximum temperature from 825° to 950° C. had little effect on the amount of retained austenite. Quenching with incomplete cooling, followed by stepped tempering, resulted in a lowering of the martensite point of the retained austenite and when the tempering was sufficiently prolonged the martensite transformation on cooling to room temperature was completely eliminated. Quenching steel

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(1) from 830° C. in media with temperatures from 20° to 550° C. showed that two maxima in the retained austenite content were obtained at 200–250° C. and 325–400° C. with a sharp minimum at 300° C. The retained austenite formed at these two points behaved differently on subsequent cooling and tempering. The austenite in specimens quenched at 350° C. was much more resistant to tempering than that in those quenched at 200° C. Specimens of steel

(3) quenched in oil at 20° C. and in salt at 350° C. were studied with regard to the rates of decomposition of the retained austenite at tempering temperatures up to 700 °C. In specimens quenched at 200° C. the austenite may pass through the first zone of rapid transformation at 300–400° C. to undergo isothermal decomposition at 650–700° C. Evidence was also obtained regarding changes during secondary quenching, i.e., cooling after high-temperature tempering.

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SADOVSKIY, V. D.

Mechanism and Kinetics of Phase Transformations in the Cooling of Steel.

Edition of the Leningrad Department of VMITO Metallurgov, 1941.
Resume of the Report at the II Pan-Soviet Conference on Heat-Treatment.

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SADOVSKIY, V. D.; PAVLOV, V. A.; RODIGIN, N.M.

Temperature Measurements in Rapid Heating

Zav. Labor. 4, 430, 1941

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SADOVSKIY V.D.

ZYUZIN, V. I.; SADOVSKIY, V. D.; BARANCHUK, S.I.

The Effect of Alloying Elements on the Position of the Martensitic Point, the Quantity of Residual Austenite and its Stability during Tempering.

Trudy UFAN 10, 119, 1941

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V. D.; CHUPRAKOVA, N. P.

The Effect of Heat-Treatment on the Quantity ofResidual Austenite and its Disintegration in the Tempering of Chrome-Nickel Structural Steels.

Trudy UFAN 10, 139, 1941.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V. D.

Austenite Transformation and the Heat Treatment of Alloy Structural Steels

Metallurgy Institute AN SSSR, Moscow, 1945.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D.

SHTEYNBERG, S.S.; BOGACHEV, I.N., redaktor; GUTERMAN, S.G., redaktor; MALYSHEV, K.A., redaktor; SADOVSKIY, V.D., redaktor

[Heat treatment of steel] Osnovy termicheskoi obrabotki stali. Red.obrabotka brigady NITO metallurgov Vostoka v sostave: I.N. Bogacheva i dr. Sverdlovsk, Gos.nauchno-tekhn.izd-vo, lit-ry po chernoi i tsvetnoi metallurgii, 1945. 153 p. (MLRA 8:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Shteynberg)
(Steel--Heat treatment)

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Composite diagrams of the transformation kinetics o supercooled austenite. V. D. Sadovskii (Ural Branc Acad. Sci., U.S.S.R., Inst. Metallurgy and Metallo physiks). *Bull. acad. sci. U.R.S.S., Classe sci. tech* **1945**, 219-20.—A discussion of the theory of supercoolin of austenite and interpretation of the principal regularitie observed in the transformation of supercooled austenite 19 references.

W. R. Henn

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V. D. ; BORODINA, N. A. ; IVANOVSKAYA, S. I.

Mechanical Properties of Alloy Steels with Isothermic and Step-Hardening

Trudy IMM UFAN 5, 3, 1945.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V. D. ; CHUPRAKOVA, N. P.

The Effect of Alloying Elements on the Impace Ductility of Structural Steels and the Phenomenon of Brittleness in Tempering

Trudy IMM UFAN 6, 3, 1945

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

Decomposition of residual austenite on tempering and its effect on the impact viscosity of steel. V. D. Sadovskii (Ural Branch Acad. Sci. U.S.S.R., Sverdlovsk). *Izvest. Sektora Fiz.-Khim. Anal. Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 16, No. 2, 51-60(1946). The increase in brittleness observed on decompn. of residual austenite is actually not caused by the austenite decompn. The brittleness is caused by the martensitic structure. In the presence of austenite this brittleness is masked and upon the removal of austenite the "hidden" brittleness appears. M. Hosch

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V. D.

Collection of Diagrams of the Kinetics of Transformation of Supercooled Austenite.

Metallurgizdat, Sverdlovsk, 1947

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CA

9

Preventing acicular fracture in Hadfield steel. V. D. Sadovskii, M. M. Shteinberg, S. I. Baranchuk, and G. N. Bogacheva. *Stal* 7, 937–40(1947).—In casting Hadfield steel, some castings had a coarse-grained acicular fracture. This structure did not actually change even after hardening. To eliminate it the metal, prior to hardening heating, was preheated at 500–600° for 20–25 hrs. to change the austenite into pearlite-troostite. Not all of the austenite needed to transform; decompn. of 50–60% of the austenite sufficed. Subsequent heating for hardening changed the original coarse-grained and particularly the acicular tructure into a uniform small-grained structure.

M. Hoseh

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CA

2

Effect of changes of the parameter of crystal lattice of supercooled austenite on the temperature of the beginning of martensite transition in carbon iron alloys. V. D. Sadovskii and M. V. Yakutovich. *Doklady Akad. Nauk S.S.S.R.* 57, 369-70(1947).—As the lattice parameter of austenite is changed from 3.56 to 3.60A. in alloys from 0%C to 1.52% C at 0°, the martensite point drops in a smooth curve from about 550° to about 100° for the high-C compn. The curve fits calcd. values except at the highest C content, where possible formation of cementite may be responsible for the deviation from the calcd. values. G. M. K.

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Br. Ab.

Influence of ingot heterogeneity on the kinetics of austenite decomposition. N. P. Chuprakova and V. D. Sadovskii (*Stal*, 1949, No. 3, 282—283; *J. Iron Steel Inst.*, 1949, 163, 233).—Magneto-metric methods were used to follow the decomp. of austenite in specimens taken from different parts of an ingot. Results show that the rate of decomp. varies considerably with location in the ingot.

R. H. CLARKE.

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USSR/Metals Jul 48

Steel, Structural
Steel, Temper Brittleness

"New Type of Temper Brittleness," Prof V. D. Sadovskiy, Dr Mech Sci; N. A. Borodina, Engr, Inst Phys of Metals, Ukrainian Affiliate, Acad Sci, 6½ pp

"Stal'" No 7

Structural alloy steels, with complex system of austenite transformation, are not liable to usual temper brittleness which occurs after prolonged annealing at 500-650° or after slow cooling from such temperatures. After certain hardening treatments, they display new type of temper brittleness, [redacted]

6/40780

USSR/Metals (Contd) Jul 48

evidently due to residual austenite content. This decomposes only at comparatively high temperatures, causing sharp drop in resilience. Includes graphs.

[redacted]

6/49T82

PM 6/49T82

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1ST AND 2ND ORDERS | 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

9

Effect of nonuniformity of an ingot on the kinetics of austenite decomposition. N. P. Chuprakova and V. D. Sadovskii. *Stal* 8, 262-3(1948).—This study was carried out on specimens taken from various zones of a 4.5-ton ingot of a Cr-Ni-Mo basic-hearth steel contg. C 0.37, Mn 0.65, Si 0.37, Cr 1.63, Ni 1.54, Mo 0.21, P 0.020, and S 0.017%. The study was carried out magnetometrically and on the microstructure. No liquation of C, P, S, Cr, Ni, or Mo was observed in the various zones. There was a pronounced dendritic liquation. The transformation of austenite into pearlite-troostite was fastest in the upper part of the ingot. The austenite decompn. was more intense in the center than at the periphery. Bainite transformation was practically the same throughout the ingot as was the martensite point and the amt. of residual austenite. The sepn. of excess ferrite started in the axial regions of the dendrites, while the formation of pearlite-troostite started in the interaxial regions. The bainite transformation started in the axial regions of the dendrites and was not affected by nonmetallic inclusions.

M. Hosch

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

C A

New type of temper brittleness. V. D. Sadovskii and N. A. Borodina. *Stal* 8, 612-18(1948).—A new type of temper brittleness was observed in structural steels having a complex austenite transformation. These steels are not susceptible to the ordinary temper brittleness that sets in on prolonged temper at 500-650° or upon slow cooling from such temps. This brittleness is occasioned by partial decompn. of austenite in the upper bainite region during hardening accompanied by a sharp increase in residual austenite. The decompn. of the residual austenite during subsequent temper induces this brittleness. The presence of Mo does not prevent this brittleness. M. Hosch

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SADOVSKIY, V. D. and others.

Vliianie strukturnoi neodnorodnosti stali na fazovye prevrashcheniia pri elektronagreve. (Vestn. Mash., 1948, no. 12, p. 12-14)

Includes bibliography.

(Effect of the nonuniformity of steel structure on phase transformations during electric heating.)

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

Effect of chemical composition of steel on the transformation of super-cooled austenite upon hardening and annealing. V. D. Sadovskii. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 16, No. 1, 96-121(1948).—Austenitic transformation in most structural steels is characterized by an intermediate zone of accelerated decompn. of austenite. This zone is encountered most frequently at medium temps. between the zone of perlite-troostite decompn. (Ar') and the upper limit of martesite (Ar'''). Depending on the chem. compn. of a steel, the zone of intermediate transformation (Ar'') starts below 600-450° and is sepd. from Ar' by an area of increased stability of austenite. In some steels Ar' does not appear, but Ar'' is clearly evidenced. The effect of alloying elements on Ar'' was studied. The results are presented diagrammatically. C had but little effect on the location of Ar'' in relation to temp. At higher C contents, the zone of austenite stability between Ar' and Ar'' was narrowed. Ni retarded the decompn. of austenite and it also affected the location of Ar' and Ar''. The max. rate of decompn. in Ar' was shifted toward lower temps. and the upper limit of Ar'' was greatly lowered. In consequence, higher Ni content considerably widened the intermediate zone of relative stability of austenite. The effect of Mn in Cr steels was analogous to Ni but more pronounced. A change in the Si content of 1.5-4% had no significant influence in Cr steels. The effect of Cr on Ar'' appeared clearly at 1.35%. At higher content of Cr as its quantity decreased, the upper limit of Ar'' shifted toward higher temps. and gradually penetrated into Ar'. As the Cr content increased, the zone of relative austenite stability at 500-50° gradually widened owing to the lowering of the upper limit of Ar''. As to the stability of residual austenite on annealing, Si had the greatest effect which caused a shift of the interval of intense transformation toward high temps. Mn, Cr, and Ni acted analogously but to a lesser degree. The annealing procedure was more telling on the amt. of residual austenite than the alloying elements. The theory of austenite transformation is discussed. M. Hosch

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C. 4

The influence of structural heterogeneity in steel on phase transformations during electric heating. V. D. Sadovskii, G. N. M. Rodigin, and N. A. Borodina. *Vestnik Mashinostroeniya* 28, No. 12, 12-14(1948).—Expts. are reported wherein Fe and steel were heated to det. the effects on the microstructure. The authors concluded that the "Geveling Effect" (cf. *C.A.* 32, 8276[8]) was not significant. M. S.

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SADOVSKIY, V.D. i BORODINA, N.A.

21759 SADOVSKIY, V.D. i BORODINA, N.A. Prokalivayemost' stali i yavleniya khrupkosti pri otpuske. V SB: Problemy konstruktsionnoy stali. M.L., 1949, S. 102-19 -- Bibliogr: 8 Nazv.

SO: Letopis'Zhurnal'nykh Statey, No. 29, Moskva, 1949

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21798 SADOVSKIY, V.D. Vliyaniye skorosti skorosti nagreva pre elektrotermoobrabotke na strudturu i svoystva stali. V SB: Problemy konstruktsionnoy stali. M.L., 1949, S. 204-19 — Bibliogr: 6 Nazv.

SO: Letopis'Zhurnal'nykh Statey, No. 29, Moskva, 1949

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SADOVSKIY, V.D., BOGAUEVA, G.N. i BRAUN, M.P.

21760 SADOVSKIY, V.D., BOGAUEVA, G.N. i BRAUN, M.P. Vliyaniye usloviy terieuskoy na vid izloma konstruktsionnykh legirovannykh staley. V SB: Problemy konstruktsionnoy stali. M.L., 1949, S. 220-34. -- Bibliogr: 14 Nazv.

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SADOVSKIY, V.D.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Metallurgy and Metallography

Isothermal transformation of austenite in alloy steels and the technology of hardening. V. D. Sadovskii. *Trudy Inst. Fiz. Metal., Ural. Filial, Akad. Nauk S.S.S.R.* No. 12, 127–41(1949).—Recent work in this field was reviewed, especially that of S. and coworkers. The subjects included pearlitic and bainitic hardenabilities, decrease in ductility during tempering, and microcracks caused by quenching. 18 references. A. G. Guy

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SADOVSKIY, V. D.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 345 - I

BOOK Call No.: TN672.V8

Author: MALISHEV, K. A., SADOVSKIY, V. D. and SAZONOV, B. G.

Full Title: OVERCRYSTALLIZATION OF AUSTENITE CAUSED BY INNER HARDENING

Transliterated Title: Rekristallizatsiya austenita, obuslovlennaya vnutrennim naklepom

Publishing Data

Originating Agency: All-Union Scientific Engineering and Technical Society of Machine Builders. Urals Branch

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Coverage: Phase transformation of austenite in the anisotropic medium is discussed. The form and orientation of crystals of the new phase are found to be dependent upon vectorial characteristics of the medium. As a result of the orientating of the transformation of γ-α each monocrystallic grain of austenite at cooling is transformed into an orderly crystallographic complex

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SADOVSKIY, V.D.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 351 - I

BOOK Call No.: TN672.V8

Author: SADOVSKIY, V.D., LARIONAN, R.M., and POLYAKOVA, A.M.

Full Title: STUDY OF STRUCTURE OF TEMPERED AND ANNEALED STEEL WITH THE ELECTRONIC MICROSCOPE

Transliterated Title: Elektronno-mikroskopicheskoye issledovaniye struktury zadalennoy i otpushchennoy stali

Publishing Data

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Text Data

This is an article from the book: VSESOYUZNOYE NAUCHNOYE INZHENERNO-TEKHNICHESKOYE OBSHCHESTVO MASHINOSTROITELEY. URAL'SKOYE OTDELENIYE, THERMAL TREATMENT OF METALS - Symposium of Conference (Termicheskaya obrabotka metallov, materialy konferentsii) (p. 205-211) see AID 223-II

Coverage: The modification of microstructures of various steels subjected to different thermal treatment is studied under

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elektronno-mikroskopicheskoye issledovaniye AID 351 - I
struktury zadalennoy i otpushchennoy stali

under a metallographic electronic microscope.

Specially prepared specimens of material in the form of thin film, metallic smoke, non-metallic impurities, and carbides separated from steels and other alloys were made by the electrolytic method. Highly-dispersed powders of metals and alloys (in size, a small fraction of a micron) were subjected to direct examination. However, the study of microstructure of steel specimens in the electronic microscope requires reproduction of the surface on the replica (mold). Single-stage replicas were made of oxides, lacquers, quartz and silica oxide, and double-stage replicas of polystyrol quartz plastics.

Carbon steel of the eutectoid composition (U8A) and chromium-nickel steel of the type 40KhN4 were subjected to microscopic study after specific thermal treatment.

The action of alloying elements on the tempering of steel is explained by the variation of the temperature interval between the equivalent critical point A1 and temperature of the maximum

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elektronno-mikroskopicheskoye issledovaniye struktury zadalennoy i otpushchennoy stali

AID 351 - I

velocity of disintegration, which is related to degree of overcooling at the point of minimum stability of austenite 8 microphotographs.

Purpose: For scientific workers
Facilities: None
No. of Russian and Slavic References: 7 Russian (1940-49)
Available: Library of Congress.

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3 4

Nature of naphthalene-like break in high-speed steel. V. D. Sadovskii, K. A. Malyshev, and N. V. Vyal. *Izvest. Sektora Fiz.-Khim. Anal., Akad. Nauk S.S.S.R.* 20, 345-50(1950).—High-speed steel ordinarily contg. W, Cr, and V is usually hardened from 1260 to 1280°. Such steel has a fine-grained structure and a porcelain-like break. If this steel is rehardened from the same temp. there is a sudden growth of crystals, the structure becomes coarse-grained, and the break has the appearance of naphthalene (flaky). The cause of it was studied by hardening samples from 1280°, followed by annealing at 550-800° for 1-10 hrs., and rehardening part of the specimens. The growth of the grain-size and the naphthalene-like break upon rehardening is not caused by residual austenite. The coarse-grained structure is attributed to the fact that the alloying elements from solid solns. at the temp. of the 1st hardening. During the 2nd hardening they have no time to sep. out from the martensite as carbides, and the transformation of the α-soln. into γ comes about without diffusion and the original size of the austenite grains is retained. The further growth of the austenite grains is the result of recrystn. connected with intensive soln. of the carbides as the temp. rises. This recrystn. is referred to as "collective" recrystn.

M. Hosch

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

C.A.

Electron microscopic investigation of the decomposition of austenite in the pearlito-troostite region. V. D. Sadovskii, R. M. Lerinman, and A. M. Polyakova (Ural Branch Acad. Sci., U.S.S.R.). *Doklady Akad. Nauk S.S.S.R.* 71, 299-301(1950).—An electron microscope study of specimens of a C 0.41, Cr 1.38, Ni steel 3.31% isothermally transformed for 0.5 hr. at 625°, 1 hr. at 575°, and 2 hrs. at 550° after austenitizing at 900° showed that the pearlito-troostite structure forms both above and below the upper knee (600° for this steel) when a steel has two clearly sepd. knees in its S-curve. At lower transformation temps. the length and thickness of the plates of structure decreased. This result does not permit explaining the effect of an element in increasing hardenability in terms of a decrease in the temp. difference between A_1 and the upper knee. A. G. Guy

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LAKHTMAN, R. M., SADOVSKIY, V. D.

Steel - Metallography

Microscopic studies of structural transformations in rapid heating of hardened steel. Trudy Inst. fiz. met. No. 13, 1951.

Monthly List of Russian Accessions, Library of Congress June 1953. UNCL.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

LERINMAN, R. M., SADOVSKIY, V. D.

Steel - Heat Treatment

Effect of high heating rates in electric tempering upon the resilience of structural steels. Trudy Inst. fiz. met. No. 13, 1951.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

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SADOVSKIY, V. D., RODIGIN, N. M., BORODINA, N. A.

Steel - Heat Treatment

Effect of structural non-uniformity of steel upon the phase transformations in heating by means of electricity. Trudy Inst. fiz. met. No. 13, 1951.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

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IVANOVSKAYA, S. I., SADOVSKIY, V. D.

Electric Welding

Effect of heating rate on the structual changes in electric welding of steel. Trudy Inst. fiz. met. No. 13, 1951.

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

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKII, V. D.

B. G. Sazonov and V. D. Sadovskii. The influence of the rate of heating on the position of critical points in the heating of steel. P. 693.

Institute of Physics of Metals
Ural Branch of Academy of Sciences, USSR
April 9, 1951

SO: Journal of Technical Physics, Vol. XXI, No. 6, June 1951

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SADOVSKIY, V. D.

178T79

USSR/Metallurgy - Recrystallization 1 Jan 51

"Recrystallization of Austenite Depending on Cold Hardening," K. A. Malyshev, V. D. Sadovskiy, B. G. Sazonov, Inst Phys of Metals, Ural Affiliate, Acad Sci USSR

"Dok Ak Nuak SSSR" Vol LXXVI, No 1, pp 61-64

Austenite, which forms while heating steel above critical points, undergoes int hardening, which produces recrystn and the usually following growth of grain.

178T79

Translation B-80363, 16 Nov 54

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SADOVSKIY, V. D.

2

USSR

The intermediate transition of austenite. R. I. Butin, *Doklady Akad. Nauk S.S.S.R.* 79, 673-7(1951); cf. V. D. Sadovskii, *Trudy Ural. Filiala Akad. Nauk*, (Sverdlovsk), 1945.—The isothermal decompn. of austenite has two max. for the rate of decompn. for steel alloyed with Mo, Cr, or W. One max. lies below the temp. interval 450-600° (the transition region) and the other above it. A study of carbide formation shows that in all cases (Cr, Mo, or W) cementite is formed in the transition region. The kinetics of the $\gamma \rightarrow \alpha$ transition was studied in the transition region.

J. Roytar Leach

62

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

1. Sadovskiy, V.D., Popov, A.A.

2. USSR (600)

4. AUSTENITE

7. Theory of degeneration of supercooled austenite. Zhur. tekh. fiz. 22 no. 11, 1952.

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

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D.; MALYSHEV, K.A.; SAZONOV, B.G.

Structural mechanism of phase transformation in rapid heating of steel. [Izdaniia] LONITOMASH no.30:55-69 '52. (MLRA 8:1)
(Steel--Heat treatment)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SAZONOV, B.G.; SADOVSKIY, V.D.

Effect of heating speed upon the position of critical points of steel. [Izdaniia] LONITOMASH no.30:241-252 '52. (MLRA 8:1)
(Steel--Heat treatment)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

USSR/Metals - Steel, Transformation 11 Mar 52

"Concerning the Effect of Quenching Temperature on the Amount of Residual Austenite in Steel," V. D. Sadovskiy, G. N. Bogacheva, Inst of the Physics of Metals, Ural Branch, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXXIII, No 2, pp 221, 222

Disputes conclusion made by Americans W. J. Harris and M. Cohen (Metal Technol, 15, No 6, 1948; Trans Am Soc for Metals, 41, 1949) concerning changes inside of austenite when temp rises or decreases in range of austenitic state. Presents results of studying the effect of heating conditions on amt of residual austenite and claims that phenomenon,

214T64

described by American authors, actually is caused by strong graphitizing action of Ni, this ability of Ni not being properly treated by them. Submitted by Acad I. P. Bardin 18 Jan 52.

214T64

SADOVSKIY, V. D.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

PA 234T51

USSR/Metallurgy - Steel, Structure Apr 52

"On Stabilization of Austenite in Respect to Martensitic Transformation," G. N. Bogacheva, V. D. Sadovskiy, Inst of Phys of Metals, Ural Affiliate, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 83, No 4, pp 569-572

Disputes assumption of certain investigators that austenite stabilization can occur without previous decompn of austenite to martensite, referring chiefly to American investigators E. Klier and A. Troiano (Metals Technology, Vol 12, No 2, 1945).

234T51

Concludes that stabilization takes place only in presence of martensite which undergoes decompn during heatings and holdings for stabilization of austenite. Submitted by Acad I. P. Bardin 8 Feb 52.

(CA 47 no. 18: 9236 '53)

234T51

SADOVSKIY, V. D.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Metallurgy and Metallography

(4)

Chernov's *b* point. V. D. Sadovskii, K. A. Malyshev, and B. G. Sazonov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1953, 68-81.—Historical discussion of the work on metallography of iron by Chernov (*Zhur. Russ. Met. Obshchestva* 1916, No. 3-4; originally reported in 1868) and an explanation of his definitions of *a* and *b* points in the Fe phase diagram. 29 references.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D.

SADOVSKIY, V.D.; MALYSHEV, K.A.; SAZONOV, B.G.; SHEVYAKINA, L.Ye., redaktor; LUCHKO, Yu.V., redaktor; KOVALENKO, N.I., tekhnicheskiy redaktor.

[Phase and structure changes during the heating of steel] Fazovye i strukturnye prevrashcheniia pri nagreve stali. Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 183 p. (Metallography) (Steel--Heat treatment) (MLRA 8:1)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SOKOLOV, K.N.; SADOVSKIY, V.D., retsenzent, doktor tekhnicheskikh nauk; ZAKHAROV, B.P., inzhener, redaktor; DUGINA, N.A., tekhnicheskiy redaktor.

[Heat treatment of steel] Tekhnologiia termicheskoi obrabotki stali. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 298 p. (MLRA 8:1)
(Steel--Heat treatment)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

~~SADOVSKIY, V.D.~~
SADOVSKIY, V.D.

Nature of naphthalene-like break in high-speed steels. V. D. Sadovskii, K. A. Malyshev, and N. V. Vyal. *Trudy Inst. Fiz. Metal., Akad. Nauk S.S.S.R., Ural. Filial* No. 14, 35–42(1954); cf. *C.A.* 48, 8152*a*.—High-speed steels quenched from 1260 to 80° develop a large grain size and a fracture having a flaky appearance like naphthalene if reharden-ed. On rehardening, vol. changes during the α-γ transformation cause deformation of the new austenite grains and promote their recrystn. Large grains develop as a result of "collective" recrystn. which is assocd. with the high recrystn. temp. of high-speed steel (250–300° above the α-γ transformation) and the kinetics of pptn. and soln. of carbides. Development of large grains can be avoided by rapid heating during the rehardening operation.
H. W. Rathmann

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D

4 The effects of austenite particle size on the martensite transformation in steel. M. G. Galdukov and V. D. Sadovskii. *Doklady Akad. Nauk S.S.S.R.* 95, 67-8(1954).—62

High-alloy Cr-Ni steel, on being quenched from 1000° and 1200° in liquid N, had a lower martensite transformation point when quenched from the higher temp., i.e. when the grain size was larger. A similar effect was obtained with steel which had been subjected to local plastic deformation, which produced locally larger grains. In such steel, the martensite transformation progressed sooner after the steel was quenched in liquid N. W. M. Sternberg

1

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V. D., MALYSHEV, K. A., SAZONOV, B. G.

"On Methods of Pulverizing the Grain of Cast Alloy Steel by Heat Treatment." From the book, "Heat Treatment and Properties of Cast Steel." edited by N. S. Kreshchanovskiy, Mashgiz, Moscow 1955.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SOKOLKOV, Ye.N.; SADOVSKIY, V.D.

Irreversible temper brittleness of structural steel alloys. Fiz.met. i metalloved. 1 no.2:359-361 '55. (MIRA 9:4)

1.Ural'skiy filial Akademii nauk SSSR, Institut fiziki metallov.
(Steel, Structural--Brittleness)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D.

Causes of irreversible temper brittleness. E. N. Skoikov and V. D. Sadovskii. *Fiz. Metal. i Metalloved.* 1, 302-5 (1955).—In order to sep. the effect of austenite decompn. from carbidic decompn. of martensite, steels contg. C 0.30, Cr 1.50, and Ni 5.60; C 0.38, Si 1.12, Cr 1.60, and Ni 5.80; and C 0.33, Si 1.08, Cr 3.09, and Ni 4.10% were isothermally quenched from 1200° at a temp. ranging from room to slightly above the martensitic point for 5 min. and then were either water quenched or heated for 5 min. in the temper brittle range, after which both sets of specimens were drawn at 200° for 1 hr. The compn. selected assured austenite stability in the 2nd heating range, so that only martensite decompn. entered the picture. The curves giving impact strength vs. the temp. of the first isothermic treatment show that the temper brittleness is directly connected with processes occurring in martensite on tempering it in the dangerous interval, expressing itself in a characteristic intergranular fracture along austenitic grains. Decompn. of austenite has no effect whatever. A max. brittleness was always observed when the boundaries of austenitic grains were filled with martensitic crystals. J. D. Gat

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SADOVSKIY, V.D

6

13057 Effect of Deoxidation With Aluminum Upon the Irreversible Temper Brittleness of Structural Alloy Steels. E. N. Sokolkov, G. V. Gaidukov, and V. D. Sadovskii, Henry

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

Metallovedenie, V. 1, [illegible]
Altadena, Calif.
Evidence points to grain refinement induced by Al additions as the principal factor in reducing the incidence of temper brittleness in steel.

Institute of physical metallurgy, Ural'skiy filial, AS USSR

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SADOVSKIY, V.D.

USSR/ Physics - Metallurgy

Card 1/1 Pub. 22 - 25/62

Authors : Sadovskiy, V. D.

Title : Effect of the preliminary overheating of steel on the kinetics of decomposition of supercooled austenite

Periodical : Dok. AN SSSR 102/3, 515 - 517, May 21, 1955

Abstract : Explanations (theoretical and experimental) are presented of certain phenomenon observed during the study of preliminary overheated austenite, namely, an appearance of large grains corresponding to the previous austenite structure. Six USSR references (1949-1954). Illustrations; graphs.

Institution : The Acad. of Sc., USSR, The Ural Branch, Institute of Physics of Metals

Presented by: Academician I. P. Bardin, February 10, 1955

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D.

91/1112 539.388 :669.15-157

Effect of Plastic Deformation (in Austenitic state) on Tempering Brittleness of Alloyed Structural Steel

Dokl. Akad. Nauk 103(4), 609-610 1955

62

L.V. Smirnov, E.N. Sokolkov, V.D. Sadovsky

U.S.S.R.

When combining rolling with hardening under conditions precluding recrystallisation of cold-hardened austenite, a considerable repression of the development of both reversible and irreversible temper brittleness is observed. Plastic deformation in austenite state followed by hardening (in the absence of recrystallisation) also prevents destruction of metal along the boundaries of austenite grains. It is conceivable that plastic deformation affects the distribution and segregation of phases causing the development of the two kinds of brittleness. The mechanisms of the initiation of the two kinds of brittleness are, apparently, identical. (Bibl. 5)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V.D., doktor tekhnicheskikh nauk, professor, redaktor; KIRILLOV, Yu.L., kandidat tekhnicheskikh nauk, retsenzent; DUGINA, N.A., tekhnicheskiy redaktor

[Problems in physical metallurgy and heat treatment of metals; a collection of articles] Problemy metallovedeniia i termicheskoi obrabotki; sbornik statei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 220 p. (MIRA 9:11)
(Metals--Heat treatment)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446630005-2

SADOVSKIY, V. D.

AL'TGAUZEN, O.N., kandidat fiziko-matematicheskikh nauk; BERNSHTEYN, M.L., kandidat tekhnicheskikh nauk; BLANTER, M.Ye., doktor tekhnicheskikh nauk; BOKSHTEYN, S.Z., doktor tekhnicheskikh nauk; BOLKHOVITINOVA, Ye.N., kandidat tekhnicheskikh nauk; BORZDYKA, A.M., doktor tekhnicheskikh nauk; BUNIN, K.P., doktor tekhnicheskikh nauk; VINOGRAD, M.I., kandidat tekhnicheskikh nauk; VOLOVIK, B.Ye., doktor tekhnicheskikh nauk [deceased]; GAMOV, M.I., inzhener; GELLER, Yu.A., doktor tekhnicheskikh nauk; GORELIK, S.S., kandidat tekhnicheskikh nauk; GOL'DENBERG, A.A., kandidat tekhnicheskikh nauk; GOTLIB, L.I., kandidat tekhnicheskikh nauk; GRIGOROVICH, V.K., kandidat tekhnicheskikh nauk; GULYAYEV, B.B., doktor tekhnicheskikh nauk; DOVGALEVSKIY, Ya.M, kandidat tekhnicheskikh nauk; DUDOVTSEV, P.A., kandidat tekhnicheskikh nauk; KIDIN, I.N., doktor tekhnicheskikh nauk; KIPNIS, S.Kh., inzhener; KORITSKIY, V.G., kandidat tekhnicheskikh nauk; LANDA, A.F., doktor tekhnicheskikh nauk; LEYKIN, I.M., kandidat tekhnicheskikh nauk; LIVSHITS, L.S., kandidat tekhnicheskikh nauk; L'VOV, M.A., kandidat tekhnicheskikh nauk; MALYSHEV, K.A., kandidat tekhnicheskikh nauk; MEYERSON, G.A., doktor tekhnicheskikh nauk; MINKEVICH, A.N., kandidat tekhnicheskikh nauk; MOROZ, L.S., doktor tekhnicheskikh nauk; NATANSON, A.K., kandidat tekhnicheskikh nauk; NAKHIMOV, A.M., inzhener; NAKHIMOV, D.M., kandidat tekhnicheskikh nauk; POGODIN-ALEKSEYEV, G.I., doktor tekhnicheskikh nauk; POPOVA, N.M., kandidat tekhnicheskikh nauk; POPOV, A.A., kandidat tekhnicheskikh nauk; RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk; ROGEL'BERG, I.L., kandidat tekhnicheskikh nauk;

(Continued on next card)

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AL'TGAUZEN, O.N.---- (continued) Card 2.
SADOVSKIY, V.D., doktor tekhnicheskikh nauk; SALTYKOV, S.A., inzhener; SOBOLEV, N.D., kandidat tekhnicheskikh nauk; SOLODIKHIN, A.G., kandidat tekhnicheskikh nauk; UMANSKIY, Ya.S., kandidat tekhnicheskikh nauk; UTEVSKIY, L.M., kandidat tekhnicheskikh nauk; FRIDMAN, Ya.B., doktor tekhnicheskikh nauk; KHIMYSHIN, F.F., kandidat tekhnicheskikh nauk; KHRUSHCHEV, M.M., doktor tekhnicheskikh nauk; CHERNASHKIN, V.G., kandidat tekhnicheskikh nauk; SHAPIRO, M.M., inzhener; SHKOL'NIK, L.M., kandidat tekhnicheskikh nauk; SHRAYBER, D.S., kandidat tekhnicheskikh nauk; SHCHAPOV, N.P., doktor tekhnicheskikh nauk; GUDTSOV, N.T., akademik, redaktor; GORODIN, A.M. redaktor izdatel'stva; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor

[Physical metallurgy and the heat treatment of steel and iron; a reference book] Metallovedenie i termicheskaia obrabotka stali i chuguna; spravochnik. Pod red. N.T.Dudtsova, M.L.Bernshteina, A.G. Rakhshtadta. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 1204 p. (MLRA 9:9)

1. Chlen -korrespondent Akademii nauk USSR (for Bunin)
(Steel--Heat treatment) (Iron--Heat treatment)
(Physical metallurgy)

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Sadovskiy, V.D.

USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-10

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11937

Author : Sokolkov, Ye.N., Sadovskiy, V.D.
Inst : -
Title : Investigation of the Irreversible Temper Brittleness of Structural Alloyed Steels.

Orig Pub : Probl. metalloved. i term. obrabotoh. Mos kva - Sverdlovsk, Mashgiz, 1956, 99-119

Abstract : Study of the development of the irreversible temper brittleness of a large number of alloyed steels has shown that the occurrence of temper brittleness is not connected with the decay of the residual austenite, but is in correspondence with the start and development of the carbide formation during the decay of the martensite. The irreversible temper brittleness takes place also in the case of a special heat treatment, which prevents the decay of the

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