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67833
SOV/180-59-6-10/31

Irreversible Temper Brittleness in Constructional Steels

associated with the process of decomposition of martensite, it is not possible completely to prevent the development of this weakness. However, the data published in the literature (Refs 6, 14, 28) and the results of the present investigation indicate several ways of minimizing the harmful effect of tempering on the mechanical properties of steels. This can be achieved by 1) lowering the threshold temperature of cold-shortness of steels tempered at low temperatures (by grain-refining and lowering the content of solid and gaseous impurities); 2) shifting the critical tempering temperature range towards higher temperatures by means of alloying additions which inhibit the decomposition of martensite; and 3) ensuring more uniform decomposition of martensite.

Card 10/10

There are 7 figures and 28 references, of which 19 are Soviet and 9 English.

SUBMITTED: August 6, 1959

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18(0),24(2) SOV/53-67-2-4/7

AUTHOR: Sarrak, V. I.

TITLE: The Brittle Breaking of Metals (Khrupkoye razrushenîye metallov)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 2, pp 339-361 (USSR)

ABSTRACT: The present paper gives a survey of theoretical and experimental investigations of problems concerning the brittle destruction of metals. By this one understands a breaking or tearing of metal, by which, without any previous noticeable plastic deformation, two new surfaces are created (plastic destruction is, however, preceded by a considerable plastic deformation). In his introduction the author shows that the theoretical calculation of the strength of metals according to the formula $\sigma_{theor} = \sqrt{(E\gamma/a)}$, where E denotes Young's modulus, 2γ the surface energy connected with the forming of two new surfaces, and a the atomic lattice constant, yields a value that is much too high. Chapter 2 deals with the theory by Griffith (Ref 1), which gives the formula $\sigma = \sqrt{(2E\gamma/\pi c)}$, and the formula by Orovan (Ref 4) of

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$\sigma = \sqrt{(2Ep/\pi c)}$, where the plastic deformation of the surface layer is already taken into account. Chapter 3 in detail deals with the dislocation theory of destruction, and chapter 4 deals with the temperature course of the yield point. (Figures 6-9 show respective diagrams). In the following chapter the part played by impurities of the lattice is investigated, and chapter 6 deals with the structure of steel and its tendency towards brittle breaking, and chapter 7 deals with intergranular destruction. The last part of the paper discusses the spreading of cracks according to the deformation- and dislocation theories. Figure 12 shows the increase of stress in a brittle crack in soft steel in dependence on temperature; the diagram shows, in this case at 10°C, the characteristic and practically vertical increase of transversal stress. The following Soviet authors are mentioned: A. V. Stepanov, Ya. I. Frenkel', Ya. M. Potak, B. S. Kasatkin, S. S. Shurakov, S. Tsobkallo, F. F. Vittman, G. V. Uzhik, N. N. Davidenkov, T. N. Chuchman, V. I. Kostenets, S. I. Sakhin, P. O. Pashkov, V. A. Bratukhina, Ye. M. Shevandin, L. G. Orlov, I. M. Utevskiy. There are 12 figures and 78 references, 19 of which are Soviet.

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SOV/20-127-2-20/70

AUTHORS: Sarrak, V. I., Entin, R. I.

TITLE: On Relaxation-processes During the Recreation and the Deep Annealing of Hardened Steel

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 306-309 (USSR)

ABSTRACT: Hardened samples of three steel alloys were annealed at different temperatures for one hour, and changes in the limit of resistance were then investigated. The results of these tests are given in table 1. The effect of annealing of hardened samples on the width of the X-ray interference bands is also investigated. Relevant data are given in table 2. From the fact that the width of interference bands decreases but slightly even when samples are subjected to higher annealing, it is conluded that the bands are not connected with the breaking down of the martensite structure. However, the decrease in width of the interference bands is explained by the existence of elastic deformations in the micro-regions (tensions of the second kind). As may be seen from the diagram (Fig 1) the resistance at 20°C reaches a limit 5 to 6 hours after hardening. The same is valid

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for internal friction. Further, changes in the internal friction dependent on annealing were examined by determining the free torsional vibrations. Results are listed in a diagram (Fig 2). These experiments were carried out at the Kafedra fiziki Moskovskogo instituta stali RKF-MIS (Chair of Physics in the Moscow Institute for Steel RKF-MIS). A decrease in the height of the peaks at 200°C was noted regardless of the annealing method. This observation is brought into connection with the breaking down of the martensite and with relaxation processes. Finally the dislocation-theory is discussed and it is stated that the local tensions are proportional to the accumulation of dislocations. Furthermore, studies are made of the relaxation time after deformation or after martensite transformation, and of the influence of the diffusion of atoms

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On Relaxation-processes During the Recreation and the Deep Annealing of Hardened Steel SOV/20-127-2-20/70

between 120 and 280°C on internal friction. There are 2 figures, 2 tables, and 12 references, 8 of which are Soviet.

ASSOCIATION: Institut metallofiziki Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii
(Institute for the Physics of Metals of the Central Scientific Research Institute for Iron-metallurgy)

PRESENTED: March 30, 1959, by G. V. Kurdyumov, Academician

SUBMITTED: March 21, 1959

Inst Metal Studies v Physics of Metals, Cent. Inst Ferrous Metallurgy

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SARRAK, V. I. Cand Tech Sci -- "Friability of steel in low-temperature tempering." Mos, 1960 (Min of Higher and Secondary Specialized Education RSFSR. Mos Order of Labor Red Banner Inst of Steel im I. V. Stalin). (KL, 1-61, 196)

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S/129/60/000/010/003/009
E193/E483

AUTHORS: Sarrak, V.I., Engineer and R.I.Entin, Doctor of Technical Sciences, Professor

TITLE: Reversible Temper Brittleness

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No.10, pp.14-19

TEXT: The main results of the investigation, described in the present paper, are reproduced graphically in Fig.7, where the critical temperature of cold-shortness of steel 20ХГ (20KhG) is plotted against tempering temperature for specimens of steel (1) quenched in oil, (2) subjected to special heat treatment leading to precipitation of ferrite at the grain boundaries, (3) remelted in vacuum, (4) heat-treated, (5) containing an addition of 0.3% Al, and (6) containing an addition of 0.002% B. Analysis of these results, correlated with the findings of other workers, led the present authors to the following conclusions: The main cause of reversible temper brittleness is the specific character of decomposition of martensite at the grain boundaries, where the transformation often begins earlier and proceeds at a rate faster than in the interior of the grains. Tempering at low

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Reversible Temper Brittleness

and moderately high temperatures brings about (at a certain stage of the process) almost complete decomposition of martensite at the grain boundaries with the interior of the grains still constituting a super-saturated solid solution. The heterogeneous structure, formed in this way and containing domains of solid solution with different carbon contents, is the principal cause of the increased tendency of steel to fail in a brittle manner. When steel in this condition is stressed, the solid solution regions, characterized by low yield point, are subjected to a system of tri-axial stresses, in which case the ratio of the normal to tangential stress increases and the critical temperature of the cold-shortness is raised. Tempering, carried out at relatively high temperatures, does not cause cold-shortness since, under these conditions, no concentration gradient is formed in the solid solution. Another factor which promotes the development of reversible temper brittleness is the decrease in the free surface energy of the grains. The probability of intercrystalline fracture decreases with increasing magnitude of the difference $\gamma_n - \gamma_g$, where γ_n is the free surface energy of the grains and γ_g is the excess

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Reversible Temper Brittleness

grain-boundary energy due to heavily distorted crystal lattice in these regions. Normally this difference is large but it decreases considerably in the presence of a decomposed solid solution formed at the grain boundaries of martensite, which leads to intercrystalline fracture as a result of the onset of reversible temper brittleness. It is possible that the beneficial effect of the introduction of small additions of aluminium or boron, thermo-mechanical treatment, and vacuum melting on the tendency of steel to develop reversible temper brittleness is associated with the effect of these factors on the surface energy of the grains in decomposed martensite. Thus, although it is not possible to prevent the onset of irreversible temper brittleness, the critical tempering temperature can be raised by addition of elements which retard the second stage of decomposition of martensite (silicon, tungsten), and the temperature at which the tempered steel exhibits its brittle characteristics can be depressed by the application of vacuum melting, thermal and mechanical treatment and /or introduction of small additions of aluminium or boron.

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Reversible Temper Brittleness

There are 7 figures and 16 references: 9 Soviet, 5 English, 1 German and 1 French.

ASSOCIATION TsNIIChM

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E073/E535

TRANSLATION

AUTHORS: Sarrak, V. I. and Entin, R. I. (Moscow)

TITLE: Brittleness of Steel in Conjunction with Secondary Hardness

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1961, No.1, pp.117-118

TEXT: During tempering of steels alloyed with vanadium, molybdenum and tungsten an increase in hardness occurs in the temperature range 500 to 600°C, which is associated with the formation of disperse carbides of these elements. The authors of this paper investigated the tendency to brittleness of such steels in conjunection with the process of decomposition of the solid solution of carbon in the α-phase. The investigations were made for the steels 10T, 35T, 20С2Г3Н2ХФ (20S2G3N2KhF), 30С2Г3Н2Ф (30S2G3N2F), 35С2Г3Н2Ф (35S2G3N2F), 40С2Г3Н2Ф (40S2G3N2F). The steel 10T was quenched from 1350°C, the remainder were quenched from 1100°C. The hardness R_c, impact strength a_k, kgm/cm^2, width of the X-ray interference lines B, mrad, and the coercive force H_c, Oe, were measured, Fig.1; the top graph relates to the

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steel 10T (0.1% C, 0.5% Ti) for which the impact strength was determined at +120°C, the bottom graph relates to the steel 20S2G3N2KhF (0.21% C, 2.07% Si, 3.02% Mn, 1.85% Cr, 1.83% Ni, 1.57% V). For the steels 10T and 35T the hardness decreased somewhat before reaching a maximum; for the other steels an increase in hardness was observed from 400°C onwards. The decrease in the impact strength occurred after the beginning of decomposition of the solid solution, which can be evaluated on the basis of the width of the X-ray interference lines. This is particularly pronounced for the steel 20S2G3N2KhF (Fig.1b), for which the temperature of the beginning of a drop in impact strength coincides with the temp. of decomposition of the solid solution. The character of the fracture of the steel in the brittle state, corresponding to maximum hardness, is intercrystalline. If the tempering temperature is increased to 650°C, the fracture will become transcrystalline. It is pointed out that development of the brittleness begins prior to reaching maximum hardness and is associated with processes of decomposition of the solid solution. It can be assumed that the development of brittleness is to some extent the consequence of a

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differing degree of decomposition of the solid solution along the boundaries and inside the grain. Decomposition of the solid solution at the grain boundaries usually occurs at greater speeds than inside the grain; it can be anticipated that the maximum degree of structural nonuniformity will correspond to a maximum hardness inside the grain, which is associated with rejection of disperse carbides. Particularly at this stage the process of decomposition can be completed along the grain boundaries. Thereby, inside the grain the saturated solid solution of carbon in α-iron, which is in metastable equilibrium with disperse rejections of special carbides, will still be maintained. This is evidenced by the nature of the changes in the widths of the interference lines of the α-phase at tempering temperatures of 300 to 500°C (Fig.1b). The presence in the alloy of sections of solid solutions of differing composition with differing yield points brings about brittle failure, as was shown for instance by V. A. Pavlov and M. V. Yakutovich (Ref.3) in the case of quenched steel with a ferrite network along the grain boundaries. Failure in this case will occur along the sections of the decomposed solid solution with

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a lower yield point which are distributed along the grain boundaries. A further increase of the tempering temperature leads to full decomposition of the solid solution inside the grain and elimination of the structural nonuniformities of the steel. The nature of the failure changes: fractures along the grain boundaries will cease. The impact strength of the steel can increase considerably (Fig.1a), although in some cases it will remain unchanged in spite of the considerable drop in hardness (Fig.1b). It cannot be ruled out that this phenomenon in the steel 20S2G3N2KhF is associated with the difficulty of the process of coagulation of the disperse carbides due to alloying of the steel with silicon, chromium and vanadium. Consequently, the impact strength may not increase, although the hardness of the steel will drop as a result of decomposition of the solid solution of carbon in the α-iron. Obviously, for increasing the impact strength of this steel high temperature tempering is required, which leads to coagulation of the disperse special carbides. The brittleness associated with failure along the grain boundaries is obviously a phenomenon which is associated with decomposition of solid solutions if at a certain stage the degree of

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decomposition along the grain boundaries differs from that inside the grains. Such brittleness was detected by A. Geisler and F. Keller (Ref.4) in alloys of aluminium with magnesium and silicon and by A. Guy, C. Barret and R. Mehl (Ref.5) in beryllium bronze and by A. Kramer and W. Baldwin (Ref.6) in stainless chromium-nickel austenitic steel. The irreversible temper brittleness of constructional steels is also associated with differing degrees of decomposition of the solid solution of carbon in the α-iron along the boundaries and inside the grain (Ref.7). There are 2 figures and 7 references: 3 Soviet and 4 non-Soviet.

(Note: This is a complete translation)

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led up and cracks were initiated. The high internal friction immediately after quenching was due to motion of dislocations. Relaxation at room temperature and tempering at 100 or 200°C reduced brittleness and internal friction by gradual relieving of internal stresses and dispersal of dislocations. In a certain range of temperatures, lying between 200 and 500°C for different steels, tempering increased brittleness because of selective precipitation, at grain boundaries, of the solid solution of carbon in α-iron. This produced a non-uniform distribution of carbon which favored cracking along grain boundaries. Tempering at still higher temperatures produced more intense precipitation of carbon, but the distribution of the precipitate became more uniform and once again brittleness decreased. Acknowledgment is made to A.I. P'yanov, Student of the Khar'kovskiy politekhnicheskiy institut im. V.I. Lenina (Khar'kov Polytechnical Institute im. V.I. Lenin) who helped in some experiments. There are 14 figures and 34 references: 17 Soviet-bloc and 17 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: H. King and S. Glover, J.Iron and Steel Inst., 193, 123, 1959; C. Beaulien, A. Dube and G. Setendre, Trans.Met.Soc. AIME, 218, 3, 1960; R. Decker,

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rittleness of steel during tempering ... S/717/62/000/007/003/010
D207/D301

and I. Freeman, Trans. Met. Soc. AIME, 218, 277, 1960; A. Kramer, and W. Baldwin, Trans. ASM, 50, 803, 1958.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

S/020/62/146/004/009/015
B104/B102

AUTHORS: Sarrak, V. I., Entin, R. I.

TITLE: Relation between the temperature dependence of the yield point of iron and the interaction of dislocations with interstitial atoms

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 4, 1962, 810 - 812

TEXT: Wires 1 mm thick, 50 mm long, produced from commercial iron (0.042% C, 0.005 % N) were annealed at 1000°C, slowly cooled to 800°C and then cooled in air. A few specimens having a temperature of 730°C were quenched in water. The grain size of the specimens was approximately 0.03 mm. In two series of measurements the difference $\Delta\sigma$ between the yield point at -196°C (-20°C) and the stress at -20°C (-196°C) that corresponded to the final deformation of the specimens was determined using a method introduced by A. Cottrell and R. Stokes (Proc. Roy. Soc., A 233, 17 (1955)). Results: $\Delta\sigma$ decreases as the degree of deformation increases. If the temperature rises from -196°C to -20°C the resistance of the material to deformation changes more strongly than is the case when the temperature decreases in reverse direction. Hence consolidation of the material at

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S/129/63/000/004/001/014
A004/A127

AUTHORS: Sarrak, V.I., Entin, R.I.

TITLE: Austenite hardening during thermomechanical treatment of steel

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 4, 1963, 2 - 4

TEXT: The steel grades 45X 3H 8C (45Kh3N8S) - 0.45% C, 2.68% Cr, 8.35% Ni and 1.54% Si - and 40 XH3M (40KhN3M) - 0.4% C, 1.76% Cr, 2.89% Ni and 0.72% Mo - were investigated to study the relation between the degree of austenite hardening and the strength of steel after thermomechanical treatment. The strength of hardened steel is determined by the level of strength of the deformed austenite and does not depend on the temperature at which the given degree of strength was obtained. If the austenite deformation temperature is reduced the coefficient of its hardening increases. The lower the deformation temperature the more considerable is the hardening of steel obtained at a lower degree of deformation. To obtain an identical hardening of steel at higher temperature, a high degree of deformation is required. It cannot be excluded that in the latter case, at the

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Austenite hardening during ... S/129/63/000/004/001/014
A004/A127

same degree of strength after thermomechanical treatment, the steel will possess a higher ductility. There are 4 figures.

ASSOCIATION: TsNIIChM

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L 21731-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b) Pf-4 AFWL/SSD/ASD(f)-3/ASD(m)-3 JD/HW

ACCESSION NR: AP4043921 S/0279/64/000/004/0127/0130

AUTHOR: Suvorova, S.O. (Moscow); Sarrak, V.I. (Moscow); Entin, R.I. (Moscow)

TITLE: Investigation of the strain aging of iron by the internal-friction method

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 4, 1964, 127-130

TOPIC TAGS: strain aging, iron, titanium, hydrogen annealing, internal friction, strain amplitude, dislocation, interstitial atom

ABSTRACT: The authors investigated strain aging by a method that made a study of the correlation between dislocations and interstitial atoms possible. Iron specimens containing 0.03% C, 0.006% N_2 and 0.33% Ti were annealed for 60 minutes at 950C, furnace cooled and water quenched from 720C. Aging in a thermostat at 60C was followed by torsion tests. The authors found that strain aging had been brought about by the interaction of carbon and nitrogen atoms. The assessment of the characteristics of internal friction and, primarily of its amplitudinal dependence in electrolytic iron showed that dislocations were fixed

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ACCESSION NR: AP4043921

by C and N_2 atoms which formed "clouds", segregated and, finally, precipitated as the aging period was extended. The concentration of free C and N_2 atoms which were not bound to dislocations was established at 40C. The investigation of the critical strain amplitude led to the assumption that the purification of iron in hydrogen causes the amplitude to become negligible. Thus, the amplitude lies outside the range within which the authors were able to measure internal friction. Additions of Ti or hydrogen annealing greatly lowered the concentration of N_2 and C in the α-iron solid solution. This drop in concentration was reflected in the disappearance of the peak of the temperature curve at 40C. Subsequently strain aging and the area of yield were eliminated, so that the value of the yield point did not increase. On the other hand, holding at 60C for several hours neither affected the critical strain amplitude not changed the concentration of C and N_2 atoms on dislocations. The authors' data coincide with earlier investigations [illegible] of strain aging in iron. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 16Nov63 ENCL: 00

SUB CODE: MM NO REF SOV: 013 OTHER: 003

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L 45182-65 EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)
Pf-4 Pg-4 IJP(c) MJW/JD/HW/JG

ACCESSION NR: AT5011202 UR/2717/64/000/008/0044/0057

AUTHOR: Kogan, L. I.; Sarrak, V. I.; Entin, R. I.

TITLE: Thermomechanical treatment of steel

Dnepropetrovsk. Institut metallovedeniya i fiziki metallov. Metallovedeniya i fiziki metallov, no. 8, 1964, 44-57

TOPIC TAGS: thermomechanical treatment, thermomechanical property, steel, steel hardening, steel microstructure, austenite, austenitic steel, austenitic transformation, carbon, alloying, vacuum melting, metal deformation, stress load, yield strength, metal ductility, silicon containing alloy, tungsten containing alloy, molybdenum containing alloy, vanadium containing alloy, nickel containing alloy

ABSTRACT: The steels investigated were 40KhN5S, 42KhN5SMF, 44Kh5MF, 30Kh4, 45Kh3N8SM, 40Kh3M, 05Kh9N3, 11Kh9N3, 24Kh9N3, and 35KhN5S. Their compositions varied within the limits [illegible] 0.05-0.31 chromium, 0.12-1.[illegible] silicon, [illegible] manganese, 1.65-[illegible] chromium, 2.89-8.35 nickel, 0.48-2.9[illegible] molybdenum, and 0.25-0.82 vanadium. The mechanical properties sigma$_b$ kg/mm^2,

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ACCESSION NR: AT5011202

delta %, psi %, and HRC were determined under different thermomechanical treatment conditions. The influence of stress and deformation on the kinetics of austenite transformation was investigated at 300 and 525°C. A load was applied at a rate of 0.6 mm/min up to the desired stress which was then held constant at ±1 kg/mm². For steel [illegible] the yield point of precooled austenite was 15-20 kg/mm² at [illegible] and [illegible] kg/mm² at 300°C. The reasons for hardening with thermomechanical treatment were investigated. This investigation covered the hardening of austenite during heat and mechanical treatment, the microstructure of steels after thermomechanical treatment, and X-ray investigation of the fine structure of the steels after treatment. Based on the experimental data, the following conclusions were reached: 1) carbon content should not exceed 0.40-0.45% since further increase leads to considerable lowering of impact resistance and ductility properties and makes deformation of the austenite difficult; 2) alloying should assure high stability of austenite since in the opposite case the effect of deformation on the kinetics of the transformation can bring about formation of non-martensite transformation products; 3) alloying with silicon is expedient to prevent decomposition of martensite and a shift of the interval of

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irreversible temper brittleness to higher temperatures; 4) for strength retention at high temperatures it is expedient to alloy with elements which bring about secondary hardness (tungsten, molybdenum, [illegible]); and [illegible] vacuum melting of pure starting materials permits [illegible] retention of ductility. Orig. art. has: 13 figures and [illegible].

ASSOCIATION: None.

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NR REF SOV: 016 OTHER: 009

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARRAK, V.I.; SUVOROVA, S.O.; ENTIN, R.I.

Studying the phenomenon of the deformation aging of iron. Probl. metalloved. i fiz. met. no.8:125-143 '64. (MIRA 18:7)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SUVOROVA, S.O.; SARRAK, V.I.; ENTIN, R.I.

Investigating the deformation aging of commercial-grade iron. Fiz. met. i metalloved. 17 no.1:105-111 Ja '64. (MIRA 17:2)

1. Institut metallofiziki TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii im. Bardina.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

L 36624-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4/Pad IJP(c)
ACCESSION NR: AP5002350 MJW/JD/RM S/0126/64/018/006/0915/0920

AUTHOR: Spektor, Ya. I.; Sarrak, V. I.; Entin, R. I.

TITLE: Tendency toward brittle fracture and the fine structure of steel

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 6, 1964, 915-920

TOPIC TAGS: brittle fracture, steel, OKh7 steel, ON4 steel, 30KhGSNA steel, fine structure, impact strength, ductile fracture, cold brittleness, grain boundary, crystal structure, hardening plastic deformation, ferrite grain size

ABSTRACT: The effect of changes in the fine structure of steel developed by plastic deformation and phase hardening on its inclination toward brittle fracture was studied. The critical temperature T_{crit} (at which impact strength started to fall rapidly) was determined from impact strength-temperature curves; the impact strength a_{kmax} during ductile fracture was determined; values of type II distortion $\Delta a/a$ and the extent of the range of coherent scattering D were determined from x-ray interferencedata on OKh7, ON4 and 30KhGSNA steels. T_{crit} was lower-

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L 36624-65
ACCESSION NR: AP5002350

ed as $\Delta a/a$ decreased; when the tempering temperature was raised and the growth of D increased noticeably, T_{crit} continued to fall and a_{kmax} started to increase. The greatest reduction in T_{crit} upon heating annealed and cold deformed alloys occurred at temper temperatures at which $\Delta a/a$ decreased and D increased. The threshold of cold brittleness of hardened and deformed iron alloys depends on internal stresses whose reduction leads to reduction in T_{crit}, this process starts to develop on heating well below the temperature at which D starts to increase. Tempering at higher temperatures reduced $\Delta a/a$ and D, and T_{crit}. It was concluded that the reversible and irreversible temper brittleness of steel was associated with the conditions of the grain boundaries and not with changes in the fine crystal structure of the grain. Impact strength at temperatures above the brittleness T_{crit} is determined by the state of the ferrite matrix of the steel, but other factors such as the presence of the carbide phase, its form, dispersity and distribution must be considered. The tendency toward brittle fracture can be reduced by reduction of the ferrite grain size and by alloying, e.g., with nickel. Orig. art. has 8 figures

Card 2/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

L 36624-65

ACCESSION NR: AP5002350

ASSOCIATION: Institut metallovyedeniya i fiziki metallov TsNIIChERMET im. I. P. Bardina Zavod "Dneprospetsstal'" (Institute of Metal Science and Physics of Metals, Central Scientific Research Institute of Ferrous Metallurgy)

SUBMITTED: 22Feb64 ENCL: 00 SUB CODE: MM

NR REF SOV: 013 OTHER: 000

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

ACCESSION NR: AP4034537 S/0020/64/155/005/1054/1057

AUTHOR: Spektor, Ya. I.; Sarrak, V. I.; Entin, R. I.

TITLE: Explanation of the effect of nickel on cold shortness of iron

SOURCE: AN SSSR. Doklady*, v. 155, no. 5, 1964, 1054-1057

TOPIC TAGS: iron cold shortness, nickel iron alloy, plastic deformation, internal friction, ductility brittleness transition

ABSTRACT: Alloying of commercial iron and construction steels with nickel considerably lowers the temperature of transition from a ductile to a brittle state in impact tests. The authors have investigated this phenomenon on iron with 0.03%C (MZh), with and without 3.4% Ni (ON4). The heat treatment was such that the grain size was the same in both materials. Impact tests were conducted in the temperature range from /100 to -196 C. Alloying lowered the brittleness temperature by about 30 C. Since the interaction between the interstitial atoms (carbon, in this case) and dislocations which cause brittleness is reflected in the amplitude dependence of internal friction; the authors determined the latter with a torsion pendulum. The critical amplitude which was found at 20 to 200C is considerably

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ACCESSION NR: AP4034537

lower in nickel iron. This shows that the interaction of dislocations with carbon are weaker, thus lowering the fixation of dislocations and favoring plastic deformation. Orig. art. has: 4 figures.

ASSOCIATION: Institut metallovedniya i fiziki metallov central'nogo naucho - issledovatel'skogo instituta chornoy metallurgii im. I. P. Bardina (Institute for Metallurgy and Physics of Metals of the Institute for Ferrous Metallurgy).

SUBMITTED: 06Nov63 DATE ACQ: 13May64 ENCL: 00

SUB CODE: MM, MM NO REF SOV: 005 OTHER: 007

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARRAK, V.I. (Moskva); SUVOROVA, S.O. (Moskva); ENTIN, R.I. (Moskva)

Effect of deformation and aging on the amplitude characteristic of internal friction in martensite. Izv. AN SSSR. Met. no.4:156-158 Jl-Ag '65. (MIRA 18:8)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

L 1627-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b)/EWA(c) JD

ACCESSION NR: AP5021947 UR/0126/65/020/002/0315/0316
539.67

37
34
B

AUTHOR: Sarrak, V. I.; Suvorova, S. O.

TITLE: Effect of tempering on the amplitude dependence of the internal friction of martensite

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 2, 1965, 315-316

TOPIC TAGS: internal friction, tempering, martensite, solid solution, carbide phase

ABSTRACT: Following low-temperature tempering (approx. 100°C) the amplitude-independent internal friction of the martensite of 20KhGl steel decreases; this may be associated with the stress-relaxation processes. (The amplitude mentioned here refers to deformation amplitude.) Tempering in the 200-400°C range, which leads to a virtually complete decomposition of the solid solution, produces an increase in both the amplitude-independent internal friction Q^{-1} and the amplitude-dependent internal friction α. This may be due to the increase in the mobility of dislocations owing to the decomposition of the solid solution. The decrease in Q^{-1} and α at tempering above 400°C is apparently to be explained by the decrease in the

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L 1627-66

ACCESSION NR: AP5021947

dislocation density of the matrix and the coagulation of the carbide phase. Thus, the change in the characteristics of internal friction may be related to the processes of martensite decomposition and the decrease in dislocation density during tempering. A detailed elucidation of this relationship requires further investigation. Orig. art. has: 2 figures.

ASSOCIATION: Institut metallofiziki (Institute of Metal Physics); TsNIIChERMET im. I. P. Bardina

44,55

SUBMITTED: 07Aug64 ENCL: 00 SUB CODE: MM, ME

NO REF SOV: 004 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

L 1626-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD
ACCESSION NR: AP5021948 UR/0126/65/020/002/0317/0319
546.72:539.67:539.374

AUTHOR: Beresnev, G. A.; Sarrak, V. I.

TITLE: Effect of plastic deformation on the amplitude dependence of the internal friction of iron

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 2, 1965, 317-319

TOPIC TAGS: internal friction, material deformation, amplitude, iron, crystal lattice

ABSTRACT: The effect of plastic deformation on the change in the (deformation-) amplitude-dependent internal friction Q_H^{-1} at temperatures of from 20 to -160°C in constant longitudinal magnetic fields of different intensity was investigated for commercial iron containing 0.025% C, 0.20% Si, 0.12% Mn, 0.01% S, 0.004% P, and 0.02% Al. Internal friction was measured by recording the damping of the natural torsional vibrations of 0.8 mm diameter wire specimens at a frequency of ≈0.8 cps. It was found that magnetoelastic scattering markedly decreases as a result of plastic deformation (curve 1, Fig. 1). This is because the deformation involves a considerable increase in the number of dislocations, whose stress fields are obsta-

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L 1626-66
ACCESSION NR: AP5021948

cles to the movement of domain walls. Curve 2 in Fig. 1 (H = 325 oersteds) characterizes only dislocation scattering. As can be seen, this increases with increasing degree of plastic deformation. Thus, as the degree of plastic information increases the proportions between the contributions of dislocation scattering and magnetoelastic scattering to the amplitude-dependent internal friction of the iron become reversed. As the temperature drops to -160°C, dislocation scattering decreases (Fig. 2); this is attributed to the increase in the resistance to the movement of dislocations with decreasing temperature. As can be seen from Fig. 2, the temperature dependence of dislocation scattering increases with increasing number of mobile dislocations as a result of the deformation. A possible explanation may be that, during the measurement of amplitude-dependent internal friction, the dislocations performing oscillatory motion with an amplitude of the order of 10^{-5}-10^{-4}, encounter the temperature-dependent resistance of the crystal lattice. Orig. art. has: 4 figures.

ASSOCIATION: Institut metallofiziki (Institute of Metal Physics); TsNIIChermet im. I. P. Bardina

SUBMITTED: 08Jun64 ENCL: 02 SUB CODE: MM, ME

NO REF SOV: 003 OTHER: 004

Card 2/4

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

L 1626-66
ACCESSION NR: AP5021948

ENCLOSURE: 01

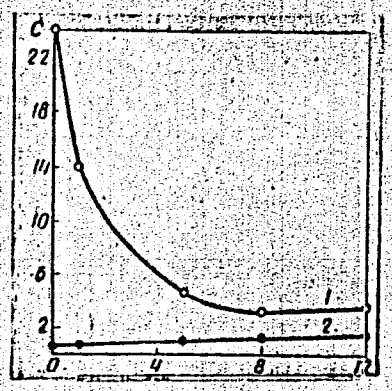

Fig. 1. Effect of degree of plastic deformation on amplitude dependence of internal friction of iron (T = 20°C):

1 - H = 0; 2 - H = 325 oe

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L 1626-66

ACCESSION NR: AP5021948 ENCLOSURE: 02

Fig. 2. Effect of degree of plastic deformation on the amplitude dependence of internal friction of iron (H = 325 oe):

1 - T = 20°C; 2 - T = -160°C

Card 4/4

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

BERESNEV, G.A. (Moskva); SARRAK, V.I. (Moskva); ENTIN, R.I. (Moskva)

Effect of temperature and interstitial impurities on energy scattering during small shifting of dislocations in iron. Izv. AN SSSR. Met. no.6:111-119 N-D '65. (MIRA 19:1)

1. Submitted February 12, 1965.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

L 24328-66 EWT(m)/T/EWP(t) IJP(c) JD

ACC NR: AP6010425 SOURCE CODE: UR/0020/66/167/002/0322/0325

66
65
B

AUTHORS: Beresnev, G. A.; Sarrak, V. I.; Entin, R. I.

ORG: Central Scientific Research Institute of Ferrous Metallurgy im. I. P. Bardin (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)

TITLE: Temperature dependence of the resistance of iron to deformation and the dislocation mobility

27

18

SOURCE: AN SSSR. Doklady, v. 167, no. 2, 1966, 322-325

TOPIC TAGS: iron, temperature dependence, crystal dislocation, crystal deformation, elastic stress, internal friction, crystal impurity, crystal lattice

ABSTRACT: To check on the causes of the strong temperature dependence of the elastic limit of metals with body-centered-cubic lattice, the authors have investigated the influence exerted on this elastic limit, taken as a function of the temperature, by the resistance of the crystal lattice itself to the motion of dislocations. The tests were

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L 24328-66

ACC NR: AP6010425

made on commercial iron (0.025% C, 0.005% N) containing 0.33% Ti to bind the carbon and nitrogen into carbides and nitrides of titanium. The internal friction was measured at a frequency of approximately 1 cps. The amplitude dependent internal friction was measured at strains from 2×10^{-5} to 20×10^{-5} in a longitudinal constant magnetic field (325 Oe). Increasing the interstitial impurities from 10^{-7} to 10^{-3}% greatly increases the resitance to deformation. The authors describe the effects produced by interstitial impurities, by the changes in density of the free dislocations participating in the deformation, and by the motion of the free dislocation. It is concluded from the results that the temperature dependence of the elastic limit of iron is essentially the consequence of an increase in the resistance of the crystal lattice to the motion of the free dislocations with decreasing temperature. The influence of the impurities and of the density of the free dislocations comes into play to the extent that they change the dislocation velocity, and the density of the moving dislocations or the multiplication of dislocations. This report was presented by Academician G. V. Kurdyumov. Orig. art. has: 4 figures and 2 formulas.

SUB CODE: 20,11/ SUBM DATE: 24May65/ ORIG REF: 004/ OTH REF: 005

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

ACC NR: AP7005135 SOURCE CODE: UR/0126/66/022/004/0606/0610

AUTHOR: Sarrak, V. I.; Shilov, N. A.

ORG: TsNIIChERMET

TITLE: The influence of cobalt on the tendency of iron toward brittle fracture

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 4, 1966, 606-610

TOPIC TAGS: iron base alloy, cobalt iron, brittleness, low temperature metal, transition temperature, tensile property, internal friction, activation energy

ABSTRACT: A study was done on the influence of cobalt on the brittle fracture of iron at low temperatures. The iron had the following compositions: 0.01-0.02% C, 0.20% Si, 0.17% Mn, 0.012% S, 0.0035% P, 0.013% O, 0.007% N, and 0.002% H. Impact testing was done at temperatures ranging from -192 to +100°C. The iron samples had a constant grain size of 35-40 μ and were alloyed with 5 and 10% Co. The impact strength, given as a function of temperature, showed that 5% Co lowered the transition temperature by 20°C, and 10% Co lowered it by 40°C. Tensile testing was done at temperatures ranging from +20 to -196°C at a constant crosshead speed of 2 mm/min. Tensile samples had a diameter of 10 mm and a gage length of 50 mm. The tensile strength and ductility were given as functions of temperature for pure and alloyed iron. The tensile transition temperature for pure iron was -100°C and -125°C for 5% Co. Five ten-

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ACC NR: AP7005135

sile regions were separated on the basis of strength and ductility changes as a function of temperature. The mechanism by which cobalt improves the plasticity of iron at low temperatures was determined from internal friction properties on 0.8 mm samples which were vacuum-annealed to a constant grain size of 35-40 mm. A reverse pendulum was used to get the amplitude dependence of internal friction at temperatures ranging from 70 to 470°C. At low amplitudes (below about $4\text{-}15 \cdot 10^{-5}$ depending on temperature) the internal friction was independent of amplitude, while at higher amplitude it was proportional to amplitude. The slope in the amplitude dependent range was related to dislocation mobility or the energy for dislocation climb (ΔW). Values of lg ΔW were given as a function of $1/T$ for the 10% Co alloy. Below 300°K, ΔW decreased as a result of increased lattice friction, while the sharp increase in ΔW above 500°K was caused by the locking of dislocations with interstitial impurities. The Cottrell relation for the concentration of impurities locking dislocations as an exponential function of temperature was given. Between 300 and 500°K, ΔW was not a function of temperature. The activation energies for dislocation interaction with impurity atoms (U_d) and the activation energies of mobile dislocations (U_r) were given for each alloy. Alloying with cobalt decreased both U_d and U_r, as well as the saturation temperature for impurity atoms. Thus cobalt had the same effect as nickel. Orig. art. has: 5 figures, 1 table, 3 formulas.

SUB CODE: 11/ SUBM DATE: 09Nov65/ ORIG REF: 009/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARRAZIN, Olgierd

Annular pancreas. Polski przegl. chir. 32 no.11:1099-1102 '60.

1. Z III Kliniki Chirurgicznej A.M. w Poznaniu Kierownik: doc. dr J. Borszewski.

(PANCREAS abnorm)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARRAZIN, Olgierd

Anastomosis of a pancreatic cyst with the stomach in children. Polski przegl. chir. 35 no.2:151-153 '63.

1. Z III Kliniki Chirurgicznej AM w Poznaniu Kierownik: prof. dr A. Piskorz.

(PANCREATIC CYST) (STOMACH)
(SURGERY OPERATIVE)
(ABDOMINAL INJURIES)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

BULKIN, P.I.; SARRE, D.M.; YEMEL'YANOVA, N.I.; KRATYNSKIY, V.I., otv. red.; RUDAKOVA, N.I., tekhn. red.

[Official specifications and estimates for building, assembling, and repair work in 1960; estimates recalculated for the new price scale] Vedomstvennye normy i rastsenki na stroitel'nye, montazhnye i remontno-stroitel'nye raboty 1960 g.; rastsenki pereschitany iskhodia iz novogo masshtaba tsen. Moskva, Gosstroiizdat. Collection V-48 [Building and assembling work using local materials in agriculture] Stroitel'nye i montazhnye raboty s primeneniem mestnykh materialov v sel'skom khoziaistve. 1961. 160 p. (MIRA 17:3)

1. Russia (1923- U.S.S.R.) Ministerstvo sel'skogo khozyaystva.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

1. SARRE, M. F.

2. USSR (600)

4. Ensilage

7. Late fall sowing of sunflowers for silage.
Sots. zhiv. 14 No. 10, 1952.

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

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

Sarre, M. F.

7752 Vidovoye rayonirovaniye silosnykh, kormovykh, bakhchevykh kul'tur I korneklubneplodov. utv. 21/x 1954 G.M., izd-vo m-va sel'skogo khozyaystva ssar, 1955, 328. 22sm. (glav. upr. s.-kh. propagandy I nauki m-va sel'skogo khozyaystva ssar). 20.000 ekz. Bespl.-V kontse teksta avt. razrabotki: P.Ye. Marinich, A. I. Vytchikov, M. P. Yelsukov, A. L. Mikhal'chuk, I. A. Polezhayev, M. F. Sarre, M. N. Smirnov, B. F. Solov'yev. - (55-3885)
633.2/4:631.52

SO. Knizhmaya Letopis', Vol. 7, 1955

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARRE, M.F.

SARRE, M.F., agronom.

Late fall sowing of sunflowers for silage. Nauka i pered. op. v sel'-khoz. 7 no.10:43-44 O '57. (MLRA 10:11)
(Sunflowers)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARRE, M.F.

Sorghum is a valuable sugar plant. Sakh. prom. 32 no.4:44-45 Ap '58. (MIRA 11:6)

1.Gosufarstvennaya komissiya po sortoispytaniyu sel'skokhozyaystvennykh kul'tur.

(Sorghum)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARRE, M.F.

Make fuller and better use of Sudan grass by obtaining several harvests. Zhivotnovodstvo 23 no.6:70-72 Je '61. (MIRA 16:2)

1. Starshiy agronom Gosudarstvennoy komissii po sortoispytaniyu sel'skokhozyaystvennykh kul'tur.
(Sudan grass)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

VISTELYUS, A. B., SARSADSKIKH, N. N.

Sanatoriums

Nature of change in the mineralogical composition of slime during successive washing of sands. Zap. Vses. mir ob. 81, No. 2, 1952

Monthly List of Russian Accessions, Library Congress, September 1952, UNCLASSIFIED

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSADSKIKH, N.N.; POPUGAYEVA, L.A.

New data on the phenomenon of ultrabasic magmatism in the Siberian Platform. Razved.i okh.nedr 21 no.5:11-20 S-O '55. (MLRA 9:12)

(Siberian Platform--Rocks, Igneous)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSADSKIKH, N. N.: Master Geolog-Mineralog Sci (diss) -- "The mineralogy of friable and in situ rock of the eastern portion of the Siberian platform and the mineralogical criteria for prospecting for diamond deposits". Leningrad, 1959. 12 pp (Min Geology and Protection of Natural Resources USSR, All-Union Sci Res Geological Inst VSEGEI, Central Expedition), 150 copies (KL, No 11, 1959, 116)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSADSKIKH, N.N.; ROVSHA, V.S.

Genesis of mineral satellites of diamonds in Yakutian kimberlites. Zap. Vses. min. ob-va 89 no.4:392-399 '60. (MIRA 13:11)

1. Tsentral'naya ekspeditsiya Vsesoyuznogo nauchno-issledovatel'skogo geologicheskogo instituta, Leningrad.
(Yakutia--Kimberlites)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

IL'INSKIY, G.A.; PLOTNIKOVA, M.I.; RAZUMIKHIN, N.V.; RYUMIN, A.K.; SARSADSKIKH, N.N.; SVARICHEVSKAYA, Z.A., doktor geogr. nauk; IL'INA, M.Ye., red.; VODOLAGINA, S.D., tekhn. red.

[Fundamentals of placer deposit surveying] Osnovy poiskov rossypei; uchebnoe posobie. Leningrad, Izd-vo Leningr. univ., 1961. 122 p. (MIRA 14:8)

1. Sotrudniki Leningradskogo gosudarstvennogo universiteta im. A.A. Zhdanova (for Il'inskiy, Razumikhin, Ryumin, Svarichevskaya).
2. Sotrudniki Vsesoyuznogo geologicheskogo instituta (for Sarsadskikh, Plotnikova)

(Ore deposits) (Geological survey)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

BLAGUL'KINA, V.A.; ROVSHA, V.S.; SARSADSKIKH, N.N.

Mineralogy of kimberlite binder. Zap.Vses.min.ob-va 92 no.2:236-241 '62. (MIRA 15:6)

1. TSentral'naya ekspeditsiya Vsesoyuznogo nauchno-issledovatel'skogo geologicheskogo instituta, Leningrad.
(Kimberlite) (Olivine)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

ARTSYBASHEVA, T.F.; BLAGUL'KINA, V.A.; ROVSHA, V.S.; SARSADSKIKH, N.N.

Classification of kimberlites in Yakutia based on the kimberlites of the Alakit-Daldyn diamond-bearing region. Sov. geol. 6 no.1:70-81 Ja '63. (MIRA 16:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.

(Yakutia—Kimberlite)
(Yakutia—Diamonds)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

GALERKINA, S.G.; SARSADSKIKH, V.N.

Isolation of Triassic sediments on the eastern slope of the Arctic Ural Mountains (southern Yamal Peninsula). Trudy VNIGRI no.220. Geol. sbor. no.8:115-119 '63.
(MIRA 17:3)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

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632
.S3

SARSATSKIKH, P. I.

Spravochnoye rukovodstvo po ozeleneniyu avtomobil'nykh dorog (Reference manual on the planting of greenery for automobile roads, by) P. I. Sarsatskikh i V. I. Obolenskiy. Moskva, Avtotransizdat, 1954.
188 p. illus., diagrs., tables.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

ALEKSANDROV, Boris Sergeyevich; ALEKSEYEV, A.P.; ZABOLOTSKIY, F.D.; KONDAKOV, A.Yu.; NEGODAYEV, V.I.; RYB'YEV, I.A.; SARSATSKIKH, P.I.; CHARUYSKIY, A.P.; SHOMINOV, I.S.; BABKOV, V.F., doktor tekhnicheskikh nauk, professor, redaktor; CHVANOV, V.G., redaktor; MAL'KOVA, N.V., tekhnicheskiy redaktor.

[Handbook for road foremen] Spravochnoe rukovodstvo dlia dorozhnogo mastera. Pod red. V.F.Babkova. Moskva, Nauchno-tekhn. izd-vo avtotransportnoi lit-ry, 1954. 450 p. [Microfilm] (MLRA 8:2)
(Roads)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSATSKIKH,P.I., uchenyy lesovod.

Special conditions of landscaping roads not taken into account (Planting fruit trees along automobile highways." D.F.IUkhimchuk Reviewed by P.I.Sarsatskikh) Avt.dor.18 no.5:30 S'55. (MLRA 9:1)

(Roadside improvement) (Yukhimchuk,D.F.)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSATSKIKH, P.I.

PRYAKHIN, Viktor Dmitriyevich; SARSATSKIKH, P.I., redaktor; MAL'KOVA, N.V., tekhnicheskiy redaktor

[Landscaping automobile roads] Ozelenenie avtomobil'nykh dorog. Moskva, Nauchno-tekhn.izd-vo avtotransp.lit-ry, 1957. 53 p. (Roadside improvement) (MLRA 10:8)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSATSKIKH, Prokhor Ignat'yevich; GOLUBKOVA, Ye.S., red.; LAKHMAN, F.Ye., tekhn. red.

[Handbook for roadside landscaping] Spravochnoe rukovodstvo po ozeleneniiu avtomobil'nykh dorog. Izd.2., perer. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1958. 115 p.
(Roadside improvement)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

IGOLKIN, Nikolay Ivanovich, inzh.; GAYDUK, Kirill Vasil'yevich, inzh.; GUDIMA, Vladimir Savvich, inzh.; KORSUNSKIY, Mark Borisovich, kand. tekhn.nauk; NIKONOV, Petr Vasil'yevich, inzh.; SARKIS'YANTS, Georgiy Aleksandrovich, inzh.; SARSATSKIKH, Prokhor Ignat'yevich, inzh.; ORNATSKIY, N.V., prof., doktor tekhn.nauk, glavnyy red.; BYALOBZHESKIY, G.V., kand.tekhn.nauk, red.; IVANOV, S.S., red.; GALAKTIONOVA, Ye.N., tekhn.red.

[Manual for road builders; maintenance and repair of highways] Spravochnik inzhenera-dorozhnika; soderzhanie i remont avtomobil'nykh dorog. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1960. 326 p. (MIRA 13:9)
(Roads--Maintenance and repair)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSEKOV, A.S., Cand Geol Min Sci -- (diss) "Geomorphology of the basin of the Mointy River." Alma-Ata, 1958, 14 pp (Acad Sci KSSR. Inst Geol Sci) 150 copies (KL, 50-58, 121)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSEKOV, A.S.

Signs of recent tectonics in the Mointy Basin. Vest. AN Kazakh. SSR 14 no.3:74-77 Mr '58. (MIRA 11:5)
(Mointy Valley--Geology, Structural)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SABSEKOV, A.S.

Surface structure of the Mointy River basin and its principal stages of development. Vest. AN Kazakh. SSR 14 no.4:67-72 Ap '58. (MIRA 11:6)
(Mointy Valley--Paleogeography)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

KANLYBAYEVA, Zh.M.; ZHUKOVA, S.G.; KLINOVITSKIY, F.I.; SARSEMBAYEV, A.A.

Some results of using radioactive isotopes in observations of rock shifts in a layer of a massif. Trudy Inst.gor.dela AN Kazakh.SSR 9:40-57 '62. (MIRA 15:8)
(Radioisotopes—Industrial applications)
(Earth movements) (Coal mines and mining)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

VORONIN, I.S.; KERSHANSKIY, I.I.; TAKEZHANOV, S.T.; BEYLIN, Ya.Z.; SARSEMBAYEV, A.S.; KAGARMANOV, O.Kh.

Introduction of the zinc condensation process in the electrothermal treatment of silver foam. TSvet. met. 38 no.2:18-24 F '65. (MIRA 18:3)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSEMBAYEV, M.M.

Characteristics of liver reaction to partial hepatectomy in mice under the action of a carcinogenic aminoazo compound. Vest. AMN SSSR 19 no.11:30-35 '64. (MIRA 18:3)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSEMBAYEV, M.S.; PONOMAREV, V.D.

Studying certain physicochemical properties of tellurium trioxide. Vest.AN Kazakh.SSR 16 no.8:69-78 Ag '60. (MIRA 13:9)

(Tellurium oxide)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

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S/031/60/000/011/005/008
A161/A133

AUTHORS: Sarsembayev, M.S., Ponomarev, V. D.

TITLE: On the viscosity and electric conductivity of the soda solutions of sodium tellurate

PERIODICAL: Akademiya nauk SSR, Vestnik, no. 11, 1960, 67 - 71

TEXT: No data of the viscosity and conductivity of soda solutions of sodium tellurate exist in literature, and the described investigation had a practical purpose - to obtain data for the electrolysis of tellurium. The initial material for the preparation of the solution was tellurium trioxide produced from tellurium oxide by a previously described method (Ref. 1) (Ponomarev and Sarsembayev, "Vestnik AN KazSSR", 1960, No. 8, 69); the soda content in the solution was kept constant, 143 g per liter, at changing tellurium contents. The viscosimeter used in the experiments had been described in (Ref. 2) (Usanovich, M.I., Sumarokova, T. N., and Udovenko, T. N. "Zhurnal fizicheskoy khimii", 1939, 9, 1967) and in (Ref. 3) (Sumarokova and Litvyak. "Izvestiya sektora platiny IONKh AN SSSR", 1952, v. 27, 127). The density of the electrolyte was measured by a picknometer graduated for water. The viscosity measurements were carried out at 20,

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

40 and 60°C, and the values for 30 and 50° obtained by calculations and curves. The viscosity of solutions differed considerably from the viscosity of water. Three curves are shown (Fig. 1) illustrating that the viscosity drops with rising temperature and the tellurium content in the solution has no effect. The formula used for calculations of viscosity is

$$\eta = \frac{\eta_B \cdot dp \cdot \tau_p}{d_B \cdot \tau_B}$$

where η is the viscosity of the solution; dp - the solution density; τ_P - time of the solution running; η_B, d_B, τ_B - the viscosity, density and running time of water at the same temperatures. The accuracy of neasurements was within ± 0.0019. The calculated viscosity factor (L) at different temperatures is given (Table 3):

No. of solution	L (-10^2) at temperatures, in °C			
	20 - 30	30 - 40	40 - 50	50 - 60
1	3.53	2.67	1.95	1.10
2	3,30	2.59	1.91	1.05
3	3.02	2.44	1.87	1.03

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Table 3 continued:

4	2.84	2.35	1.83	0.96
5	2.69	2.28	1.77	0.93
6	2.59	2.28	1.72	0.89

(The tellurium content in the six test solutions was, in g/liter: No. 1 - 12.04; No. 2 - 6.02; No. 3 - 3.01; No. 4 - 1.505; No. 5 - 0.752; No. 6 - 0.376). The conductivity was measured with a P38 (R38) rheochord bridge and platinum plate electrodes coated by platinum black to reduce the polarization effect. The vessel constant was determined by the known method (by normal potassium chloride solution) The vessel was placed into a thermostat with a toluene regulator. The curve in figure 2 illustrates the results. The mean temperature factor of specific conductivity determined in the range of 20 - 60° was low, and indicating that the resistance of the solutions depended only little on the temperature. The equivalent conductivity of solutions calculated by variations of specific conductivity increased with rising temperature, but different results were obtained when the Yevstrop'yev's formula (Ref. 6) was used. As this has been stated by Ponomarev and Korostyshevaskaya (Ref. 4) and K. S. Yevstrop'yev (Refs. 5,6), the mobility

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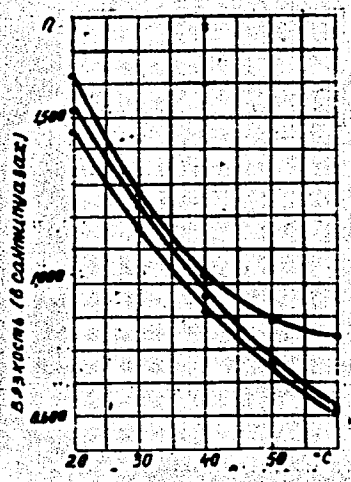
of ions drops with a rising viscosity, and the ratio of viscosity to conductivity at maximum dilution for aqueous and non-aqueous solutions at different temperatures is expressed by the formula $\eta \cdot A^n$ = const - where η - viscosity, A - equivalent conductivity, and n - a constant (Ref. 5). There are 2 figures, 6 tables and 6 Soviet-bloc references.

Figure 1:

The dependence of the viscosity of soda solutions of tellurate on the temperature (20 to 60°C); vertical legend: viscosity in centipoises.



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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SARSENBAYEV, R.; YESENOV, K.

Scientific syntax of the Kazakh language [in Kazakh]. Vest.AN Kazakh.SSR 18 no.3:90-92 Mr '62. (MIRA 15:3)
(Kazakh language—Syntax)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

KANLYBAYEVA, Zh.M.; SARSENBAYEV, Ye.S.

Using the ultrasonic impulse method in studying the elastic properties of rocks from the Karaganda Basin. Trudy Inst. gor. dela AN Kazakh. SSSR 10:143-151 '63. (MIRA 16:8)

(Karaganda Basin--Rocks--Elastic properties)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

GUMAROVA, F.G.; GOSTEVA, A.G.; TULEGENOV, Z.K.; MAKASHEVA, S.U.; POLOSUKHIN, A.P.; MUSABEKOV, A.M.; DANILOV, Yu.S.; NIGMATULIN, M.A.; ZAKHAROV, F.G.; LUZINA, Z.T.; NEPESOV, T.I.; STASYUNAS, I.P.; ISABEKOV, O.I.; SARSENBAYEVA, K.; KATSYUBA, V.T.; LENOVSKIY, A.S.; AKHMEDOV, K.Yu.; SUBKHANBERDIN, S.Kh.; KISLITSINA, N.P.; POLIKARPOV, S.V.; ZAIROV, K.S.; APSATAROV, A.A.; NOVOSEL'TSEV, V.N.; PETROV, N.N.; KHOMUTOV, M.V.; GALUSTYAN, A.S.; ARTYKOV, A.Ye.; DZHANDIL'DIN, N.D.; KOVRIGINA, M.D.; BEYSEBAYEV, M.; BUBLIK, V.N.; CHERNYSH, A.M.

Discussion on the report of S.R.Karynbaev, Minister of Public Health of the Kazakh S.S.R., on the status and improvement of medical care. Zdrav.Kazakh. 17 no.4/5 '57. (MIRA 12:6)

1. Zav. Alma-Atinskim oblastnym zdravotdelom (for Gumarova). 2. Vrach bol'nitsy g.Leninogorska Vostochno-Kazakhstanskogo oblzdravotdela (for Gosteva). 3. Zav. Karagandinskim oblastnym otdelom zdravookhraneniya (for Tulegenov). 4. Zav.Kzyl-Ordinskim oblastnym otdelom zdravookhraneniya (for Makasheva). 5. Vitse-prezident AN KazSSR (for Polosukhim). 6. Zav.Aktyubinskim oblastnym otdelom zdravookhraneniya (for Musabekov) 7. Ministr zdravookhraneniya Kirgizii (for Danilov).

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GUMAROVA, F.G.---(continued) Card 2.

8. Zav.Vostochno-Kazakhstanskim oblastnym otdelom zdravookhraneniya (for Nigmatulin). 9. Chlen kollegii Ministerstva zdravookhraneniya SSSR (for Zakharov). 10. Zav.Kustanayskim oblastnym otdelom zdravookhraneniya (for Luzina). 11. Ministr zdravookhraneniya Turkmenskoy SSR (for Nepesov). 12. Zav.sel'skim vrachebnym uchastkom Priirtyshskogo rayona Pavlodarskoy oblasti (for Stasyunas). 13. Glavnyy vrach Kapal'skoy rayonnoy bol'nitsy Taldy-Kurganskoy oblasti (for Isabekov). 14. Zav. zhenotdelom Yuzhno-Kazakhstanskogo obkoma partii (for Sarsenbayeva). 15. Zav. Dzhambulskim oblastnym otdelom zdravookhraneniya (for Katsyuba). 16. Glavnyy vrach Alma-Atinskogo oblastnogo tuberkuleznogo dispansera (for Lenovskiy). 17. Ministr zdravookhraneniya Tadzhikskoy SSR (for Akhmedov). 18. Nachal'nik Kazaptekoupravleniya (for Subkhanberdin).

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

GUMAROVA, F.G.---(continued) Card 3.
19. Zav. Semipalatinskim oblastnym otdelom zdravookhraneniya (for Kislitsina). 20. Predsedatel' respublikanskogo komiteta soyuza medrabotnikov (for Polikarpov). 21. Zam. ministra zdravookhraneniya Uzbekskoy SSR (for Zairov). 22. Zav.Alma-Atinskim gorodskim otdelom zdravookhraneniya (for Apsatarov). 23. Zav. Severo-Kazakhstanskim oblastnym otdelom zdravookhraneniya (for Novosel'tsev). 24. Zav.rayzdravotdelom Shortandinskogo rayona Akmolinskoy oblasti (for Petrov). 25. Zav. ministra zdravookhraneniya Soyuza SSR (for Khomitov). 26. Zav.ministra zdravookhraneniya ArmSSR (for Galustyan). 27. Predsedatel' Komiteta fizicheskoy kul'tury i sporta pri Sovete Ministrov KazSSR (for Artykov). 28. Sekretar' TSentral'nogo Komiteta Kommunisticheskoy partii Kazakhstana (for Dzhandil'din). 29. Ministr zdravookhraneniya Sovetskogo Soyuza (for Kovrigina). 30. Pervyy zamestitel' predsedatelya Soveta Ministrov KazSSR (for Beysebayev). 31. Uchastkovyy vrach Kustanayskoy oblasti (for Bublik). 32. Zam.predsedatelya Obshchestva Krasnogo Kresta Kazakhstana (for Chernysh).
(KAZAKHSTAN--PUBLIC HEALTH)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

S/031/62/000/011/001/001
B104/B186

AUTHOR: Sarsembayeva, Kh. K.

TITLE: An investigation of the nature of coloring in optical calcite crystals with the help of absorption spectra

PERIODICAL: Akademiya nauk Kazakhskoy SSR. Vestnik, no. 11(212), 1962, 83 - 87

TEXT: The absorption spectra of 9 optical calcite crystals from various deposits in the Soviet Union are investigated with a СФ-4 (SF-4) spectrometer in the 220 to 1000 mμ. The light sources were a hydrogen lamp and an incandescent lamp. The samples were highly polished plates. Results: The absorption spectra of crystals from different sources vary. The spectra of samples of the same source are equal. The coloring of crystals from the same source was equal but differed in intensity (dim yellow, lemon-color, pink). Annealing at temperatures up to 400°C decreased the absorption power and decolorized the crystals. Irradiation with an X-ray tube having a tungsten plate (50 kv, 50 ma) increased the intensity of the

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natural color; which proved to be a function of the irradiation time. Annealed crystals decolorized much faster than others. Weak absorption maxima at 275 mμ and additional absorption at 475 mμ of irradiated crystals (the maxima of annealed and irradiated crystals are more distinct) apparently produce a pink coloring of the optical calcite. There are 3 figures.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

PARASANOV, G.P.; SARSEMBAYEVA, Kh.K.

Fluorescence properties of Iceland spar. Trudy Min.muz. no.13: 147-152 '62. (MIRA 16:2)
(Siberian Platform—Iceland spar)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

KOLOMAKIN, G.; SARSENOV, U.S.

Controlling paratyphoid fever in calves. Veterinariia 32 no.10: 46-47 O '55. (MIRA 8:12)

1.Director Taldy-Kurganskoy oblastnoy vetbaklaboratorii (for Kolomakin).2.Nachal'nik veterinarnogo otdela Taldy-Kurganskogo oblastnogo upravleniya sel'skogo khozyaystva (for Sarsenov).
(CALVES--DISEASES) (PARATYPHOID FEVER)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

SOFIYEV, B.I.; SARSENOV, U.S.; KOLOMAKIN, G.A., kandidat veterinarnyk nauk; STUDENTSOV, K.P.; VASKOVSKAYA, L.M.

Dry brucellosis vaccine from strain no. 19. Veterinariia 33 no.10: 40-44 O '56. (MLRA 9:10)

1. Nachal'nik vetupravleniya Ministerstva sel'skogo khozyaystva Kazakhskoy SSR (for Sofiyev).
2. Nachal'nik veterinarnogo otdela Taldy-Kurganskogo oblastnogo upravleniya sel'skogo khozyaystva (for Sarsenov).
3. Direktor oblvetbaklabaratorii (for Kolomakin).
4. Zaveduyushchiy brutselleznoy laboratoriyey Kazakhskogo Nauchno-issledovatel'skogo instituta (for Studentsov).
5. Glavnyy veterinarnyy vrach Taldy-Kurganskogo rayona (for Vaskovskaya).

(Kazakhstan--Brucellosis in sheep--Preventive inoculation)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

R-1

USSR /Diseases of Farm Animals. Diseases Caused by Bacteria and Fungi.

Abs Jour: Ref Zhur-Biol., No 18, 1958, 83518

Author : Kolomakin, G. A., ~~Sarsenov, U.S.~~
Inst : Institute of Veterinary Medicine, Kazakh Section of the All-Union ordena Lenin Academy of Agricultural Sciences imeni V. I. Lenin.
Title : Simultaneous Immunization of Cattle by Strain No 19 Brucella Vaccine and by Emcar Formolvaccine.

Orig Pub: Tr. In-ta vet. Kazakh. fil. VASKhNIK, 1957, 8, 79-81

Abstract: No abstract is given

Card 1/1

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

R

COUNTRY : USSR
CATEGORY : Diseases of Farm Animals. Diseases Caused by Helminths
ABS. JOUR. : RZhBiol., No. 6 1959, No. 26025
AUTHOR : Kolomakin, G. A.; Sarsenov, U. S.
INST. : Institute of Veterinary Medicine, Kazakh Affi-*
TITLE : Certain New Data on the Employment of Phenothiazine-Salt Mixture in Helminthiases of Sheep
ORIG. PUB. : Tr. In-ta vet. Kazakhsk. fil. VASKhNIL, 1957, 8, 438-442
ABSTRACT : The analysis of the results of experiments in several years' standing use of phenothiazine-salt mixture (1:9) on sheep in kolkhozes of Taldy-Kurganskaya Oblast is given. It is noted that liberal feeding of the above mixture has

*liate of All-Union Academy of Agricultural Sciences imeni Lenin

CARD: 1/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220001-0

USSR/Diseases of Farm Animals. Diseases caused by Bacteria and Fungi R-2

Abs Jour: Ref Zhur - Biol., No 1, 1959, 2800

Abstract: which the cattle was vaccinated against brucellosis, a diminution of organic reactivity to the introduced antibrucella vaccine did not take place in vaccinated cattle.

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SARSER, Arkadiy Ionovich; KORDONSKIY, A.B., otv. red.; SLAVOROSOV, A.Kh., red.izd-va; BOLDYREVA, Z.A., tekhn. red.; MINSKER, L.I., tekhn. red.

[Surveying in mine building] Marksheiderskie raboty pri stroitel'-stve shakht. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 87 p. (MIRA 15:1)

(Mine surveying)

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PIN'KOVSKIY, Gleb Stanislavovich; SARSER, A.I., retsenzent; SLAVOROSOV, A.Kh., red.izd-va; ZHIVRINA, G.V., tekhn. red.; ROMANOVA, N.V., tekhn. red.

[Surveying operations during mine shaft sinking] Markshei-derskie raboty pri sooruzhenii shakhtnykh stvolov. Moskva, Izd-vo "Nedra," 1964. 150 p. (MIRA 17:3)

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1. Yakutskoye geologicheskoye upravleniye.

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Hormones. The relation between physiological effect and chemical structure. I. M. Šaršíková (Med. KKL, Bratislava, Czecht.). *Farmacia* 21, Suppl., 1-38(1952).—A review on N-contg. hormones with 17 references. II. *Ibid.* 22, Suppl., 1-73(1953).—A review on steroidal hormones with 20 references. K. Macek

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MAKSUMOV, S.S.; SARSIS'YANTS, S.L.; SHEREMET'YEV, N.N.; CHICHERIN, P.I.; ZAPROMETOVA, L.V.; ZHURAVLEVA, N.A.

Virusological characteristics of the outbreak of poliomyelitis in Tashkent in 1959. Vop. virus. 7 no.2:239 Mr-Ap '62. (MIRA 15:5)

1. Tashkentskiy nauchno-issledovatel'skiy institut vaktsin i syvorotok.
(TASHKENT--POLIOMYELITIS)

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Czechoslovakia

1/522. **Compleximetric determination of bromoform in syrups.** M. Saršúnová and Čičmancová (Dist. Control Lab. Bratislava Medica, Czechoslovakia) (*Českosl. Farmac.*, 1955, 4 [4], 187-188).—The method consists in saponification of the bromoform and precipitation of the bromide thus formed with an excess of $AgNO_3$ soln. The AgBr is dissolved in an excess of aq. NH_3 soln. and $K_2Ni(CN)_4$ is added. The Ag complexes with the cyanide and the liberated Ni is titrated with EDTA (disodium salt), with murexide as indicator. The method is suitable for the determination of bromoform alone or in syrups. The error is < ± 0·6 per cent.

A. O. Jakubovic

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SARJUNOVA, M.

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SARSUNOVA, MAGDA

Rapid control method for the determination of alcohol in tinctures. Magda Šaršunová and Marta Štokserová (Krajská kontrolní lab. Mediks, Bratislava, Czech.) *Farmacia* 25, 3[illegible] [illegible] [illegible] rapid detn. of alc. in tinctures [illegible] [illegible] of tinctures [illegible] [illegible] and the [illegible] [illegible] [illegible] = [illegible] and [illegible] = [illegible], where a = n of the tincture, d = d., b = n of H_2O at 20° (= 1.33299), c = d. of H_2O at 20° (= 0.998229), and C the vol. % of EtOH.

K. Macek

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