SHTREMEL', M.A

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds E-9

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3971

Author : Rakhshadt, A.G., Shtremel', M.A.
Title : Internal Friction in Metals and Modern Methods for its Determination

Orig Pub : Sovrem. metody ispytaniy meterialov v mashinostroyenii. M., Mashgiz, 1956, 79-109

Abstract : Survey, Bibliography, 43 titles.

Card : 1/1

18 (3), 18 (7)
AUTHORS: Kidin, I. N., Shtremel', M. A.

SOV/163-59-2-29/48

TITLE: The Strengthening of Alloys by Accelerated Heating (Uprochneniye splavov putem uskorennogo nagreva)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 2, pp 165-172 (USSR)

ABSTRACT: The strengthening of many iron alloys low in carbon (with Cu, Ni, Mn, etc) is done by hardening, a hard surface layer forming by a γ-α-conversion. In the papers published in 1956-57 (Refs 1, 2), a new phenomenon was described, namely the additional strengthening of these alloys by accelerated heating and an α-γ-conversion. At present, the influence of the heating rate within 50-2500 degrees/sec on the fine structure and the strengthening of chromium- and nickel-iron alloys has been investigated. The results are represented in figure 1. Besides the heating rate, also the temperature of hardening and the quenching medium (oil, water, 10% soda lye at 5°) were varied. The stresses of second kind (σ_{II}) and the block size (D_{bl}) were determined according to L. S. Moroz by measuring the width of two lines of an X-ray picture.

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Figure 1 shows that the hardness increases more rapidly at an accelerated cooling than at an accelerated heating. In spite of this, the accelerated cooling offers no advantages due to technical difficulties. The accelerated heating leads to a splintering of the blocks. Figure 3 shows the dependence of the hardness on $\frac{1}{\sqrt{D_{bl}}}$ at different variations of heat treatment. The problem as to whether the hardening by cold working follows the same rules has not yet been solved. The experimental results of M. D. Perkas (Ref 7) represented in figure 4 point to a different character of the two hardening processes. Some features of the mechanism of phase hardening, which distinguish it from the hardening by cold working, are subsequently described. The hardening by a phase conversion is a regular three-axis plastic deformation. It proceeds uniformly in each volume element by consecutive thrusts with intermediate rests. The higher effect of accelerated heating is explained by the fact that more core of the γ-phase are simultaneously formed, thus producing a finer structure. There are 5 figures and 12 references, 10 of which are Soviet.

The Strengthening of Alloys by Accelerated Heating SOV/163-59-2-29/48

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: November 21, 1958

Card 3/3

S/032/60/026/06/26/044
B010/B016

AUTHORS: Rakhshtadt, A. G., Shtremel', M. A.

TITLE: New Method of Determining the Elastic Limit on Thin Flat Samples

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 6, pp. 744-749

TEXT: A method of determining the elastic limit is described, as well as a device developed and used by the authors since 1953. This device is applied along with the apparatus for the determination of the microhardness of the ПМТ(PMT)-2, or ПМТ(PMT)-3 type. The mode of action of this device consists in that the flat parts are subjected to a longitudinal bending up to a definite deformation and the deflection which remains after unloading is measured by a microscope by the method of focusing. The device used to bend the specimen is described briefly by the aid of a graph (Fig. 1). The maximum relative increase in length on longitudinal bending is calculated by the method of Ye. P. Popov. The equations as well as a nomograph (Fig. 4) which are applied to determine

New Method of Determining the Elastic Limit on Thin Flat Samples

S/032/60/026/06/26/044
B010/B016

the elastic limit by means of the apparatus described, are given. The total error of the determination is ca 2 per cent. As example, diagrams (Fig. 5) are given concerning the change of the properties of a Бр БНТ (Br BNT) 1.9 beryllium bronze after ageing at 370°C. When determining the elastic limit by tension or deflection, different results are obtained owing to residual stress. Equations are derived which permit the mutual conversion of the diagrams of both tests. There are 5 figures and 10 references: 8 Soviet and 2 American.

ASSOCIATION: Vyssheye tekhnicheskoye uchilishche im. Baumana (Technical Institution of Higher Learning imeni Bauman). Moskovskiy institut stali im. I. V. Stalina (Moscow Institute of Steel imeni I. V. Stalin)

Card 2/2

S/032/60/026/008/006/011
B015/B064

AUTHORS: Kidin, I. N., Panov, A. V., Shtremel', M. A.

TITLE: An Apparatus for Studying Isothermal Transformations by the Method of Electrical Resistance

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 8, pp. 1009-1012

TEXT: The present paper describes a device that is used to study isothermal phase transformations in hardened metal samples after rapid heating up to a constant temperature (Fig. 1). Wire- and lamella samples are used, which are heated by the passage of industrial current, and then a voltage is applied with the help of a transformer, which keeps the temperature constant. At 500-800°C a constant temperature is reached in 3-6 seconds, and this temperature is maintained at ±3 to ±5°C exactly. Since direct measurement of resistivity on a rapid heating is complicated by the inaccuracy of the recording instruments, an ammeter and a differential voltmeter as well as a standard resistor in bridge circuit were used for this purpose. The relative change of the electrical resistance is determined from equation (6) and in consideration of the changing temperature of the

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An Apparatus for Studying Isothermal Transformations by the Method of Electrical Resistance

S/032/60/026/008/006/011
B015/B064

standard resistor and the initial temperature of the sample. The curve of the change of the electrical resistance of the ХН80 (KhN80) alloy at 545°C (Fig. 3) is given for an illustration. There are 3 figures.

ASSOCIATION: Moskovskiy institut stali im. I. V. Stalina
(Moscow Steel Institute imeni I. V. Stalin)

Card 2/2

KIDIN, I.N.; SHTREMEL', M.A.

Kinetics of changes of short-range order in binary alloys. Fiz. met. i metalloved. 11 no. 5:641-649 My '61. (MIRA 14:5)

1. Moskovskiy institut stali imeni I.V. Stalina.
(Crystal lattices—Defects)

S/129/62/000/004/004/010
E193/E383

AUTHORS: Rakhshtadt, A.G. and Shtremel', M.A.

TITLE: Resistance of metals and alloys to small plastic strains

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 4, 1962, 22 - 27

TEXT: Based on both Soviet and foreign sources, the present paper is an exposition of modern views on the behaviour of metals under stresses near the elastic limit. A concept of elasticity threshold σ_o is introduced. This is defined as the maximum stress which can be repeatedly applied to a material without producing residual stress measurable to a given degree of accuracy (e.g. 0.0002%); a stress larger than σ_o will produce a residual strain which will increase on each loading. Determination of σ_o during a tensile test can be rendered difficult by residual stresses of the first type which, under a stress lower than σ_o can cause contraction of the test piece. It should

Resistance of metals ....

also be borne in mind that the onset of athermal plastic deformation cannot be detected at slow rates of strain since, once a certain duration of loading is exceeded, the results obtained can be obscured by an elastic after-effect, stress relaxation, etc. The role of dislocations in the initial stages of plastic deformation is discussed in the next paragraph, with particular reference to factors inhibiting the movement and formation of single dislocations. Finally, the part played by grain boundaries in the process studied is discussed in relation to fine slip, movement of dislocations and movement of grains one relative to the other. In conclusion, it is stated that in order to increase the elastic limit, endurance limit and relaxation stability of metals, it is necessary to increase their resistance to small plastic strains. This can be attained by work- or phase transformation-induced hardening and by dispersion hardening. The best results should be obtained by treatments which combine all these processes and which are exemplified by various types of thermomechanical treatment. There are 6 figures.

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S/129/62/000/009/002/006
E193/E383

AUTHORS: Kidin, I.N., Doctor of Technical Sciences Professor, Shtremel', M.A. and Ryl'nikov, V.S., Engineers

TITLE: Phase-transformations as means of improving the strength of iron-chromium alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 9, 1962, 8 - 13

TEXT: This article is concerned with hardening due to $\gamma \rightarrow \alpha$ transformation in "carbon-free" iron-base alloys, i.e. alloys containing such a small proportion of carbon (0.03 - 0.05%) that it affects neither the temperature nor the kinetics and mechanism of the $\alpha \rightleftarrows \gamma$ transformation. A large amount of published data, both Soviet and foreign, is discussed and it is concluded that the considerable increase in strength of alloys of this type (e.g. alloy 03Kh5 (03Kh5) containing 0.036% C, 4.98% Cr, 0.22% Si, 0.4% Mn and 0.27% Ni) brought about by quenching and ageing at 200 - 300 °C is associated mainly with the first stage of polygonization. It is pointed out that although the increase in strength due to work-hardening and due

Phase-transformations as ....

to γ→α transformation is approximately the same, quenched alloys retain their strength at higher temperatures than cold-worked materials. This is due to the basic difference between the fine structure of quenched and cold-worked material: the phase transformation-induced deformation brings about uniform distribution of dislocations in the volume of the alloy and among all the systems of slip; the boundaries of the resultant fragments consist of dislocations of various types which, consequently, have low mobility and cannot readily transform into more mobile grain boundaries. This difference is reflected in the relaxation stability of quenched and cold-worked alloys, as demonstrated in Fig. 4, which shows the relaxation curves (stress, kg/mm^2 versus log time, min) for alloy 03Kh5 (graph a) and alloy 04Kh5S (04Kh5S) (graph6), the various curves relating to specimens subjected to the following treatments: 1) quenching; 2) quenching plus annealing at 500 °C; 3) 70% reduction in rolling; 4) rolling followed by annealing at 500 °C. The relaxation stability of quenched Cr-bearing ferritic alloys at 400 °C (under a stress of 40 kg/mm^2) is not lower than that of pearlitic steels. Similarly, the stress

RAKHSHTADT, A.G.; SHTREMEL', M.A.

Resistance of metals and alloys to small plastic deformations.
Metalloved.i term.obr.met. no.4:22-27 Ap '62. (MIRA 15:4)
(Dislocations in metals) (Metals—Hardening)

KIDIN, I.N., doktor tekhn.nauk, prof.; SHTREMEL', M.A., inzh.;
RYL'NIKOV, V.S., inzh.

Precipitation hardening of iron-chromium alloys. Metalloved. i term. obr. met. no.9:8-13 S '62. (MIRA 16:5)

1. Moskovskiy institut stali i splavov.
(Iron-chromium alloys—Hardening)

SHTREMEL', M.A.

Origin of the elasticity threshold. Fiz. met. i metalloved. 13 no.6:938-940 Je '62. (MIRA 15:7)
(Crystal lattices)
(Elasticity)

K.8200

S/126/62/014/001/018/018
E193/E383

AUTHORS: Rakhshtadt, A.G. and Shtremel', M.A.

TITLE: The initial stage of stress relaxation in spring alloys

PERIODICAL: Fizika metallov i metallovedeniye, v. 14, no. 1, 1962, 153 - 157

TEXT: The object of the present investigation was to determine the rate of stress relaxation $\dot{\varepsilon}$ and the residual strain $\varepsilon_{ост}$ in the initial stages of this process for alloys listed in Table 1, where their composition is also given. The experiments were carried out on flat test pieces in the following manner: a given bending stress (in the 26 - 55 kg/mm^2 range for Be bronzes) was applied to the specimen for 5 sec, after which the load was removed and the residual stress measured; this procedure was repeated several times so that $\varepsilon_{ост}$ was measured on specimens held under a given stress for a total time ranging from 5 - 1 200 sec. The rate of relaxation was calculated from $\dot{\varepsilon} = \Delta\varepsilon/\Delta t$, where

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The initial stage of ....

$\Delta\varepsilon = \varepsilon_{i+1}$ is the increase in the residual strain attained in time Δt. It was found that for all the alloys studied the time-dependence of $\dot{\varepsilon}$ in the log ε/log t coordinates (at σ = const) was linear. Similarly, at any given moment of t, log $\dot{\varepsilon}$ increased linearly with increasing σ, although in this case the linear nature of the relationship was less evident and the results were more scattered. A general equation for the stress relaxation (under the conditions employed in the present investigation) was derived on the basis of these results, in the form:

$$\dot{\varepsilon} = \frac{C}{t} e^{k\sigma} \qquad (1)$$

or

$$\varepsilon_{OCT} = \varepsilon_{OCT}(t_o) + Ce^{k\sigma} \ln \frac{t}{t_o} \qquad (2)$$

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The initial stage of ....

where t_o = 5 sec . The values of constants C and k for alloys studied after various heat treatments are given in another table. The expressions derived by the present authors were used to check the effect of stress relaxation on the accuracy of data on the elastic limit obtained by a method described by them in Zavodskaya laboratoriya, 1960, no. 6, 744. It was found that the error due to this factor was negligible. There are 3 figures and 2 tables.

ASSOCIATIONS: Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana (Moscow Higher Technical School im. Bauman)
Moskovskiy institut stali (Moscow Institute of Steel)

SUBMITTED: October 31, 1961 (initially)
January 23, 1962 (after revision)

Card 3/4

KIDIN, I.N.; SHTREMEL', M.A.

Conditions for the formation of boundaries with large disorientation angles. Kristallografiia 7 no.6:899-902 N-D '62. (MIRA 16:4)

1. Moskovskiy institut stali.
(Crystallization)

KIDIN, I.N.; SHTREMEL', M.A.; GRUZDOV, A.P.

Kinetics of electric resistance changes in the nickel-chromium solid solution. Izv. vys. ucheb. zav.; chern. met. 6 no.11: 186-193 '63. (MIRA 17:3)

1. Moskovskiy institut stali i splavov.

S/126/63/015/001/010/029
E111/E183

AUTHORS: Bernshteyn, M.L., and Shtremel', M.A.

TITLE: The "hereditary" influence of work hardening on the properties of steel

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.1, 1963, 82-90

TEXT: Cold plastic deformation often produces effects on the properties of steel which survive several phase recrystallisations. This could account for the scatter of test results characteristic of batches of industrial steels. A study of the effect of preliminary work hardening on the tendency to temper brittleness of type 40ХН (40KhN) steels with additions of Mo, W, Al and B showed that some effects persisted through a series of $\alpha \rightarrow \gamma \rightarrow \alpha$ changes, and that work hardening of steel in the austenitic state had a particularly marked effect on the temper brittleness after hardening, on strength, and on fine structure of the steel. Thermo-mechanically treated steels show persistent "inherited" effects, for which the following specific features of structure and transformation mechanisms in this treatment are responsible:

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The "hereditary" influence of work ... S/126/63/015/001/010/029
E111/E183

1) Work hardening reduces grain size, the fine grains generally surviving $\alpha \rightarrow \gamma$ transformation unless collective recrystallisation can occur. 2) The texture produced by work hardening makes some properties anisotropic. 3) In addition to this "crystallographic" texture there is a "dislocation" texture (non-uniform distribution of dislocations between crystallographically possible slip systems in each crystallite, and also relative to the polycrystal as a whole). 4) Finally, there is a "precipitate" texture which can arise if the symmetry of form or lattice of the precipitates is lower than that of the matrix; this can lead to "inherited" effects e.g. in alloy steel where non-uniform distribution of carbon and alloying elements persists for a long time after the formation of austenite, promoting the restoration of the "precipitate" texture after hardening. There are 6 figures and 5 tables.

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

SUBMITTED: August 5, 1962 (initially);
April 13, 1962 (after revision).

Card 2/2

ACCESSION NR: AP4039276 S/0148/64/000/005/0124/0129

AUTHORS: Kidin, I.N.; Shtremel', M.A.; Chizhikov, V.Yu.

TITLE: Work hardening of a Ni-Cr solid solution during tempering

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1964, 124-129

TOPIC TAGS: work hardening, solid solution, Ni, Cr, plastic deformation electrical resistivity, Suzuki segregation, recovery

ABSTRACT: The authors observed the effect of the changes in the resistance to small plastic deformations on the transformation in the Ni-Cr solid solution. The 100 x 2.5 x 0.2 - 0.4 mm specimens had the following composition (% weight) : 19.82-20.08% Cr; 0.018C; 0.13-0.25 Al; 0.06-0.010 Ti; 0.08-0.25 Si; 0.37-0.86 Fe; 0.07 Mn and 0.09 Co. Water quenching from 900C and drawing with an 88% reduction were followed by rolling the wire to a 0.4 mm strip and tempering at 400,450 and 500C for periods ranging from 5 minutes to 800 hrs. The elastic limit, HV and electrical resistivity were measured by standard methods. Electrical resistivity increases until the elastic limit is reached and, thereafter, both values change parallelly. The authors assume that the increase in the

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ACCESSION NR: AP4039276

elastic limit is affected by short-range order changes in the first coordination sphere and that hardness remains almost invariable. At the same time, Suzuki segregation occurs. Long-range order changes affect the entire deformation diagram but not simultaneously and not necessarily in the same direction. The probable combinations of work-hardening and recovery processes are evidently greatly influenced by the character of ordering (homogeneous and inhomogeneous), domain sizes, and the type of anti-phase boundaries. The authors recommend further investigation of the kinetics of work-hardening alloys during ordering and of the calculation of the strength characteristics in the region of very small and very large plastic deformations. The orig. art. has: 5 figures and 2 equations.

ASSOCIATION: Moskovskiy Institut Stali i Splavov (Moscow Steel and Alloys Institute)

SUBMITTED: 280ct62 ENCL: 00

SUB CODE: MM NR REF SOV: 011 OTHER: 010

2/2

Card

L 39714-65 EWP(z)/EWA(c)/EWT(m)/EWP(b)/T/EWA(d)/EWP(t) IJP(c) JD/JG

ACCESSION NR: AP5006329 S/0126/65/019/002/0241/0250

AUTHOR: Kidin, I. I.; Shtremel', M. A.; Lizunov, V. I.

TITLE: Structural transformation of carbon-free austenite with 8% chromium

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 2, 1965, 241-250

TOPIC TAGS: austenite, chromium alloy, dislocation density, phase transformation

ABSTRACT: When a tempered iron alloy containing 8% Cr and 0.2% C is heated at the rate of 2500-10000°/sec, the austenite grain is broken up after completion of the $\alpha \rightarrow \gamma$ transformation. This phenomenon is studied in an attempt to determine whether the grain reduction is due to "process recrystallization" (i.e. whether it is caused by a reduction in dislocation density), and whether phase hardening takes place during the $\alpha \rightarrow \gamma$ transformation. The isothermal process of grain reduction after austempering at the rate of 5500°/sec is also studied. It is found that an extremely slight disorientation of the austenite needles is enough to cause process recrystallization. The question of phase hardening as a possible source of dislocations needs further study.

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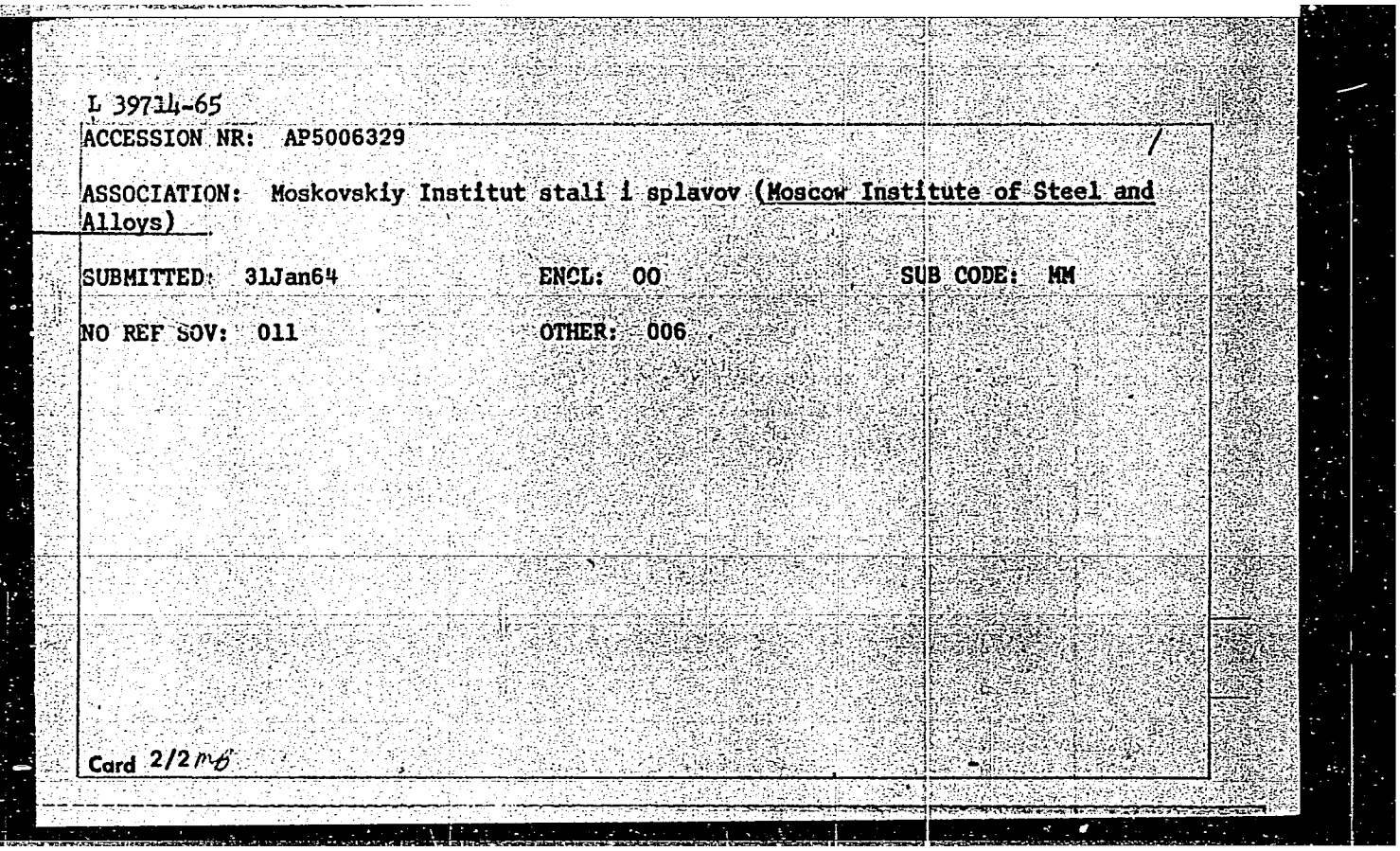

L 39714-65

ACCESSION NR: AP5006329

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

SUBMITTED: 31Jan64 ENCL: 00 SUB CODE: MM

NO REF SOV: 011 OTHER: 006

Card 2/2 mb

L 39767-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) MJW/JD

ACCESSION NR: AP5005481 S/0032/65/031/002/0216/0220

AUTHORS: Shtremel', M. A.; Gruzdov, A. P.

TITLE: Measurement of the elastic limit and modulus of elasticity of a strip less than 200 micron thick

SOURCE: Zavodskaya laboratoriya, v. 31, no. 2, 1965, 216-220

TOPIC TAGS: material property, elastic limit, elastic modulus / KM6 cathetometer

ABSTRACT: The procedures and apparatus described by A. G. Rakhshtadt and M. A. Shtremel' (Zavodskaya laboratoriya, XXVI, 6, 1960) for measuring the elastic limit and modulus of elasticity of 0.2-0.5-mm thick strips were extended to strip thickness of less than 0.2 mm. The elastic limit of 100 x 10-mm strip samples was measured in an apparatus (see Fig. 1 on the Enclosure) which can be placed in a furnace (20-500C). The movable part 4 was advanced through a range of distances 2Δ, then returned to its initial position, and the residual deformation of the strip was measured with a KM6 cathetometer (accuracy 5 micron). The relation between the displacements, angles of rotation, and curvature of the strip was found by the nonlinear theory of Ye. P. Popov (Nelineynyye zadachi statiki tonkikh sterzhney, GTTI, 1948) and was related to the maximum stress

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ACCESSION NR: AP5005481

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in the strip. The latter equation requires evaluation of the modulus of elasticity E which was measured as shown in Fig. 2 on the Enclosure. For this geometry E is given by

$$E = 0.2035 \frac{QH^3}{f}$$

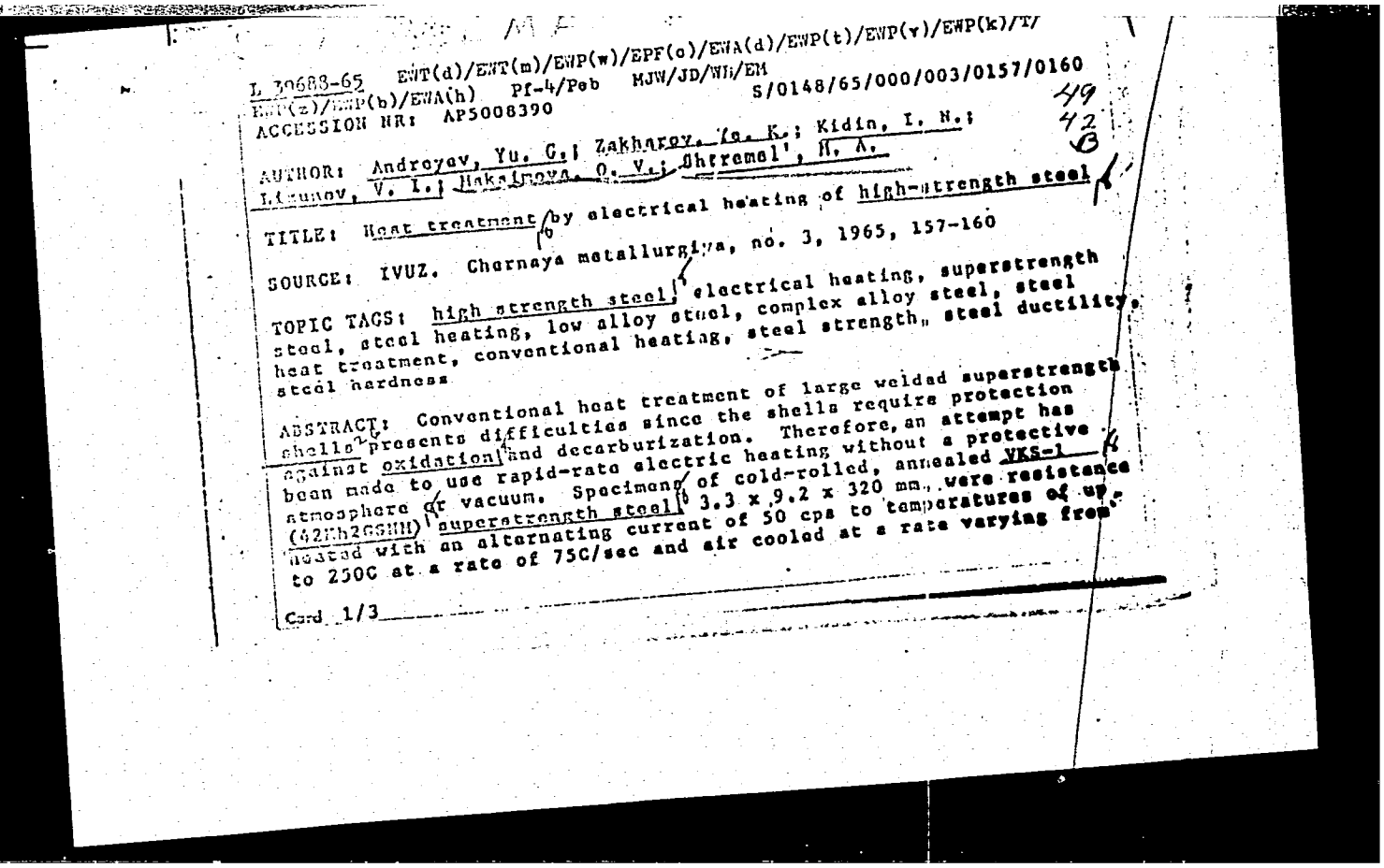
The methods and apparatus were used to measure the elastic limit and modulus of elasticity as a function of temperature (0-300C) for 0.1 mm-thick samples of EI814 steel. Orig. art. has: 9 figures and 9 formulas.

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

SUBMITTED: 00 ENCL: 01 SUB CODE: MM

NO REF SOV: 004 OTHER: 000

Card 2/3



L 30683-65 EWT(d)/EWT(m)/EWP(w)/EPF(c)/EWA(d)/EWP(t)/EWP(v)/EWP(k)/T/
EWP(z)/EWP(b)/EWA(h) Pf-4/Peb MJW/JD/WB/EM
ACCESSION NR: AP5008390 S/0148/65/000/003/0157/0160

AUTHOR: Andreyev, Yu. G.; Zakharov, Ya. K.; Kidin, I. N.; Litunov, V. I.; Nakalinova, O. V.; Shtremel', M. A.

TITLE: Heat treatment by electrical heating of high-strength steel

SOURCE: IVUZ. Chernaya metallurgiya, no. 3, 1965, 157-160

TOPIC TAGS: high strength steel, electrical heating, superstrength steel, steel heating, low alloy steel, complex alloy steel, steel heat treatment, conventional heating, steel strength, steel ductility, steel hardness

ABSTRACT: Conventional heat treatment of large welded superstrength shells presents difficulties since the shells require protection against oxidation and decarburization. Therefore, an attempt has been made to use rapid-rate electric heating without a protective atmosphere or vacuum. Specimens of cold-rolled, annealed VKS-1 (42Kh2GSNM) superstrength steel 3.3 x 9.2 x 320 mm were resistance heated with an alternating current of 50 cps to temperatures of up to 250C at a rate of 75C/sec and air cooled at a rate varying from

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ACCESSION NR: AP5008390

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50 to 80C/sec. The resulting steel structure and properties were compared with those obtained with conventional heat treatment (austenitizing at 940C for 40 min in a vacuum of 10^{-2} mm Hg followed by air cooling). It was found that the surface microhardness was 70 H_{200} lower than the core microhardness in specimens electrically heated to 1100C, as compared to 120 H_{200} in those conventionally heat treated; but in both cases the decarburization extended only to a depth of 0.04 mm. The hardened specimens were tempered in air at 200—600C for 1 hr (at 300C, for up to 4 hr). No significant difference in the microstructure of electrically and conventionally heat treated specimens was observed. Electrically heated (to 1100C) specimens, however, had a mean grain diameter of 8 μ, as compared with 11 μ in conventionally heat treated specimens. The hardness obtained by conventional hardening from 940C can be achieved by electrical heating to 1100C. Specimens electrically heated at a rate of 75C/sec to 1100C, air cooled, and tempered at 300C for 4 hr had a tensile strength of 192 kg/mm^2, an elongation of 3.4%, a reduction of area of 34%, and a bend angle of 33°, compared to 195 kg/mm^2, 3.4%, 33%, and 26° in conventionally heat treated steel. There are two groups of martensitic steels with a tensile strength of up to

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ACCESSION NR: AP5008390

200 kg/mm^2: The VKS-1 is a comparatively low-alloy steel which contains only 0.07% V and 0.50% Mo and acquires a high strength with tempering below the temper brittleness range. For steels of this group, the use of electrical heating has definite advantages. Steels of the second group contain 1—2% Mo and less than 0.5% V and require tempering at about 500C. Electrical heat treatment of a typical steel of this group, 40Kh5SM1F (Vascojet 1000) steel containing 0.43% V and 1.27% Mo, sharply increased the embrittlement in the temper brittleness range and produced a strength 10—30 kg/mm^2 lower than conventional heat treatment. Orig. art. has: 2 figures and 1 table. [MS]

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

SUBMITTED: 02Jul64 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 002 OTHER: 003 ATD PRESS: 3229

Card 3/3

ALEKSEYEVA, Ye.A., inzh.; GRUZDOV, A.P., inzh.; IL'IN, Ye.P., inzh.; KONOVALOVA, I.N., inzh.; MAKSIMOVA, O.V., inzh.; SHTREMEL', M.A., inzh.

Temperature dependence of elastic properties of thin-sheet spring alloys. Priborostroenie no.9:25-27 S '65.

(MIRA 18:10)

L 6326-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/GG

ACCESSION NR: AP5019868 UR/0181/65/007/008/2488/2492

AUTHOR: Shtremel', M. A. 55

TITLE: Kinetics of formation of Suzuki segregations

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2488-2492

TOPIC TAGS: crystal defect, crystal dislocation, physical diffusion, binary alloy

ABSTRACT: The stacking faults produced by splitting of a dislocation is regarded by the author as a sink for impurities; the capacity of the sink is determined by the known equilibrium concentration is Suzuki segregations (H. Suzuki, Dislocations and Mechanical Properties of Crystals, p. 361, Wiley, NY, 1957; J. Phys. Soc. Japan v. 17, 322, 1962). Solution of the corresponding diffusion equation yields the dependence of the degree of the filling of the stacking fault by the impurity on the time and on the width of the stacking fault. The influence of the dislocation stress field on the rate of formation of Suzuki segregations, an influence that depends on the difference in the atomic radii of the components, is estimated. During the initial stage of the process, the Cottrell sink influences the kinetics of the Suzuki process only in rare cases; during the later stages, as a rule, the Cottrell and Suzuki processes interact strongly. Hardening due to Suzuki segregations can be connected not only with the concentration of the impurity, but also

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L 6326-66

ACCESSION NR: AP5019868

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with the formation of complicated thresholds inside the stacking fault and absorption of vacancies that participate in the transport of the substitutional impurity by the stacking fault. Orig. art. has: 2 figures and 8 formulas.

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

SUBMITTED: 25Dec64 ENCL: 00 SUB CODE: SS, MM

NR REF SOV: 003 OTHER: 009

nw

Card 2/2

L 15284-66 EWT(m)/EWP(w)/EWA(d)/I/EWP(t)/EWP(k)/EWP(z)/EWP(b) MJW/JD/JW

ACC NR: AP5028963 SOURCE CODE: UR/0119/64/000/009/0025/0027

AUTHOR: Alekseyeva, Ye. A. (Engineer); Gruzdov, A. P. (Engineer); Il'in, Ye. P. (Engineer); Konovalova, I. N. (Engineer); Maksimova, O. V. (Engineer); Shtremel', M. A. (Engineer)

ORG: none

TITLE: Effect of temperature on elastic properties of thin-sheet spring alloys

SOURCE: Priborostroyeniye, no. 9, 1964, 25-27

TOPIC TAGS: spring, measuring instrument, industrial instrument

ABSTRACT: The results are reported of measurements of the elastic limit σ (with residual strains of 0.01 and 0.005%) and elasticity modulus E in bending of 85-120-micron thick specimens (10x100 mm) of BrOF6, 5-0, 15, BrKMTs 3-1, BrB2, BrBNT 1, 9 bronzes, 60S2, EI814 steels, and N36KhTYuM8 alloy at temperatures that ranged from -70C to +150 or +500C. Also, the ultimate strength σ_s and the yield point $\sigma_{0.1}$ of 0.1x10-mm 57-mm long specimens were determined. All specimens were thermally treated according to specifications normally used in the

Card 1/2 UDC: 620.172.22:62-415:536.49

L 15284-66
ACC NR: AP5028963

instrument-making industry. The numerical findings are reported in the form of curves. It is noted that many specimens suffered brittle fractures partly due to their thickness nonuniformity and high width-to-thickness ratio. Orig. art. has: 7 figures and 1 table.

SUB CODE: 11, 13 / SUBM DATE: none / ORIG REF: 004

Card 2/2

LEVYKIN, Fedor Vasil'yevich, kand. tekhn. nauk; MATVEYEV, Aleksandr Nikolayevich, inzh.; SHTREYER, Yuriy Nikolayevich, inzh.; GUREVICH, A.K., inzh., retsenzent; ZUBLEVSKIY, S.M., inzh., red.; USENKO, L.A., tekhn. red.

[Flaw detection in locomotive parts] Defektoskopiia detalei lokomotivov. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1962. 127 p. (MIRA 15:5)
(Locomotives—Inspection) (Magnetic testing)
(Ultrasonic waves—Industrial applications)

SHTREMPLER, I.I. (g. Leninpol' Frunzenskoy oblasti)

Simple experiments on the theme "Properties of ions." Khim. v shkole. no.2:65-66 Mr-Ap '58. (MIRA 11:3)
(Ions)

SHTRMT, A. A.

BULYCHEV, V.V.; GOLOVIN, G.M.; ZURKOV, P.E.; KARPOV, A.F.; NIKOL'SKIY, N.A.; OGIYEVSKIY, V.M.; POPOV, S.I.; TREYVUS, M.N.; SHITOV, I.S.; SHTRMT, A.A.; ZURKOV, P.E., kandidat tekhnicheskikh nauk, redaktor; KOMPANEYETS, V.P., kandidat tekhnicheskikh nauk, retsenzent; VAGANOV, P.V., kandidat tekhnicheskikh nauk, retsenzent; IKONNIKOV, A.N., kandidat tekhnicheskikh nauk, retsenzent; SAUKHAT, I.G., kandidat tekhnicheskikh nauk, retsenzent; NIKOLAYEV, S.I., retsenzent.

[Mining iron ore by the opencast method] Razrabotka zheleznykh rud otkrytym sposobom. Pod. obshchei red. P.E.Zurkova. Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1953. 632 p. (MLRA 7:8)
(Iron mines and mining)

SHTREMT, A.A.

The Committee on Stalin Prizes [illegible] the Council of Ministers USSR, in the fields of science and inventions announces that the following scientific works, popular scientific works, and textbooks have been submitted for competition for Stalin Prizes for the years [illegible] and 1951 (Sovetskaya Kultura, Moscow, No. [illegible], 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Zurkov, P.E. Popov, S. I. Gologin, G. M. Karpov, A.F. Nikol'skiy, N.A. Shitov, I.S. Bulychev, V.V. Ogiyevskiy, V.M. Treyvus, M.N. Shtremt, A.A. Trofimov, G.V. Pushkarev, G.I. Markman, N.Ye. Tikhovidov, I.I.	"The Working of Iron Ores by the Open Pit Method"	Magnitogorsk Mining Metallurgical Institute imeni G. I. Nosov

SO: Moscow, 1 July 1954

Штремт, А.А.

15-57-1-1111

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1, p 177 (USSR)

AUTHORS: Treyvus, M. N., Shtremt, A. A., Sadchikova, T. A.

TITLE: Technical Normalizing of Drilling Through the Unstable Rocks with Cable Rigs in the Magnitogorsk Mine Field (Tekhnicheskoye normirovaniye bureniya peremezhayushchikhsya porod udarno-kanatnymi stankami na Magnitogorskom rudnike)

PERIODICAL: Sb. nauch. tr. Magnitogor. gorno-metallurg in-t , 1955, Nr 9, pp 168-184

ABSTRACT: Bibliographic entry

Card 1/1

LYUTYY, V.P.; KHARITONOV, N.P.; SHTREMT, L.P.

Glass reinforced plastics with a new organosilicon binder. Zhur. prikl. khim. 38 no.5:1131-1133 My '65. (MIRA 18:11)

1. Institut khimii silikatov imeni I.V. Grebenshchikova AN SSSR.

L 54960-65 EWT(m)/EPF(c)/EWP(v)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WW/RM
ACCESSION NR: AP5014163 UR/0080/65/038/005/1131/1133
547.245+541.6

AUTHOR: Lyutyy, V. P.; Kharitonov, N. P.; Shtremt, L. P.

TITLE: Transparent plastics with a new organosilicon binder

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 5, 1965, 1131-1133

TOPIC TAGS: plastic, organosilicon resin, binder

ABSTRACT: The authors studied the properties of transparent plastics containing organosilicon binders based on unsaturated esters of the following structure:

$$\left[-CH_2Si(CH_3)_2-O-Si(CH_3)_2CH_2OCORCOO-\right]_n,$$

where: R is a group based on an unsaturated acid such as fumaric and maleic. Applicability of the binder based on fumaric acid for use in transparent plastics was established. Transparent plastics containing organosilicon polymer binders based

Card 1/2

L 54960-65
ACCESSION NR: AP5014163

3

on maleic acid are used. Transparent plastics containing organosilicon polyesters and fine-grained asbestos exhibit very high bending strength. The use of asbestos also gives lower water and benzene absorptions and higher thermal stability. Optimal asbestos concentration is 30%. Orig. art. has: 2 tables and 1 formula.

ASSOCIATION: Institut khimii silikatov imeni I. V. Grebenshchikova AN SSSR (Institute of Silicate Chemistry, AN SSSR)

SUBMITTED: 24Dec64 ENCL: 00 SUB CODE: MT, OC

NO REF SOV: 008 OTHER: 005

Card 2/2

SHTREYS, A.F., mekhanik.

Cleaning the screens of suction valves of circulating pumps.
Energetik 4 no.4:17-18 Ap '56. (MLRA 9:7)
(Valves)

SHTREYS, A.I., dotsent.

Problems of sanitary planning and the organization of public health services in Peterburg in the works of A.P. Dobroslavin. Trudy LSGMI 14:195-206 '53. (MLRA 7:9)
(Leningrad--Public health) (Public health--Leningrad)

SHTREYS, A.I., dotsent.

History of water supply of the Crimean steppe zones. Trudy LSGMI 14:228-250 '53. (MLRA 7:9)
(Crimea--Water supply) (Water supply--Crimea)

SHTREYS, A.I.

Construction of hospitals in Leningrad and its immediate problems. Trudy LSGMI 26:213-230 '56. (MLRA 10:6)

1. Kafedra kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta. Zav. kafedroy - prof. P.K.Aggeyev.
(HOSPITALS,
construction in Russia (Rus))

SHTRAYS, A.I., dotsent

Sanitation in Petersburg; on the 250th anniversary of the foundation of the city. Gig. i san. 22 no.9:42-46 S '57. (MIRA 10:12)

1. Iz kafedry kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(PUBLIC HEALTH, hist.
med. & sanit. serv. in Russia in Petersburg)

SHTREYS, A.I.

SHTREYS, A.I., dotsent

Sanitary work in Leningrad during the forty years of Soviet rule (1917-1957) Gig. i san. 22 no.11:49-54 N '57. (MIRA 11:1)

1. Iz kafedry kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(SANITATION
in Russia (Rus))

SHTREYS, A. I., Doc Med Sci -- (diss) " Historical survey of hospital ~~development~~ construction in Leningrad and a ~~sanitary~~ medical evaluation of ~~the~~ hospital ~~projects~~ plans." Len, 1958. 34 pp (Min of Health RSFSR. Len Sanitary ~~Hygienic~~ Hygiene Med Inst). 200 copies.

(KL, 12-58, 101)

SHTREYS, A.I., dots.

Role of S.P. Botkin in the development of the hospital system. Zdrav.Ros.Fed. 2 no.9:39-40 S'58 (MIRA 11:10)

1. Iz kafedry kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(BOTKIN, SERGEI PETROVICH, 1832-1889)
(HOSPITALS)

SHTREYS, A.I.

Oldest hospital in Leningrad; on the 250th anniversary of the founding of Leningrad. Sov.med. 22 no.7:151-153 Jl'58 (MIRA 11:10)

1. Iz kafedry kommunal'noy gigiyeny Leningradskogo sanitarnogo gigiyenicheskogo meditsinskogo instituta.
(HOSPITALS,
Obukhov Hosp., Leningrad (Rus))

SHTREYS, A.I., dotsent

Views of N.I. Pirogov on the hospital layout. Gig. i san. 23 no.11:43-45 N '58 (MIRA 12:8)

1. Iz kafedry kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(HOSPITALS--CONSTRUCTION)

SHTREYS, A.I.

Principle of individual isolation in hospital design [with summary in English]. Trudy LSGMI 44:86-98 '58 (MIRA 11:12)

1. Kafedra kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. P.K. Agayev).
(HOSPITALS ADMINISTRATION
principle of individual isolation in hosp.design (Rus))

SHTREYSH A.I., dotsent

Hospital hygiene in the work of A.P. Dobroslavin. Gig. i san. 24 no.4:37-40 Ap '59. (MIRA 12:7)

1. Iz kafedry kommunal8noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(HOSPITALS,
contribution of A.P. Dobroslavin (Rus))
(BIOGRAPHIES,
Debroslavin, A.P. (Rus))

SHTREYS, A.I., dotsent (Leningrad)

Standard designs for municipal and rural hospitals. Sov.zdrav. 19 no.1:30-36 '60. (MIRA 13:4)

1. Iz kafedry kommunal'noy gigiyeny (zaveduyushchiy - prof. P.K. Aggeyev) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (direktor - A.Ya. Ivanov).
(HOSPITALS--CONSTRUCTION)

SHTREYS, A.I., dotsent

Problems of sanitary practice in the work of G.V.Khlopin. Gig.i san. 25 no.8:33-35 Ag '60. (MIRA 13:11)

1. Iz kafedry kommunal'noy gigiyeny Leningradskogo sanitarno-gigyenicheskogo meditsinskogo instituta.
(SANITATION) (KHLOPIN, GRIGORII VITAL'EVICH, 1863-1929)

SHTREYS, A.I.

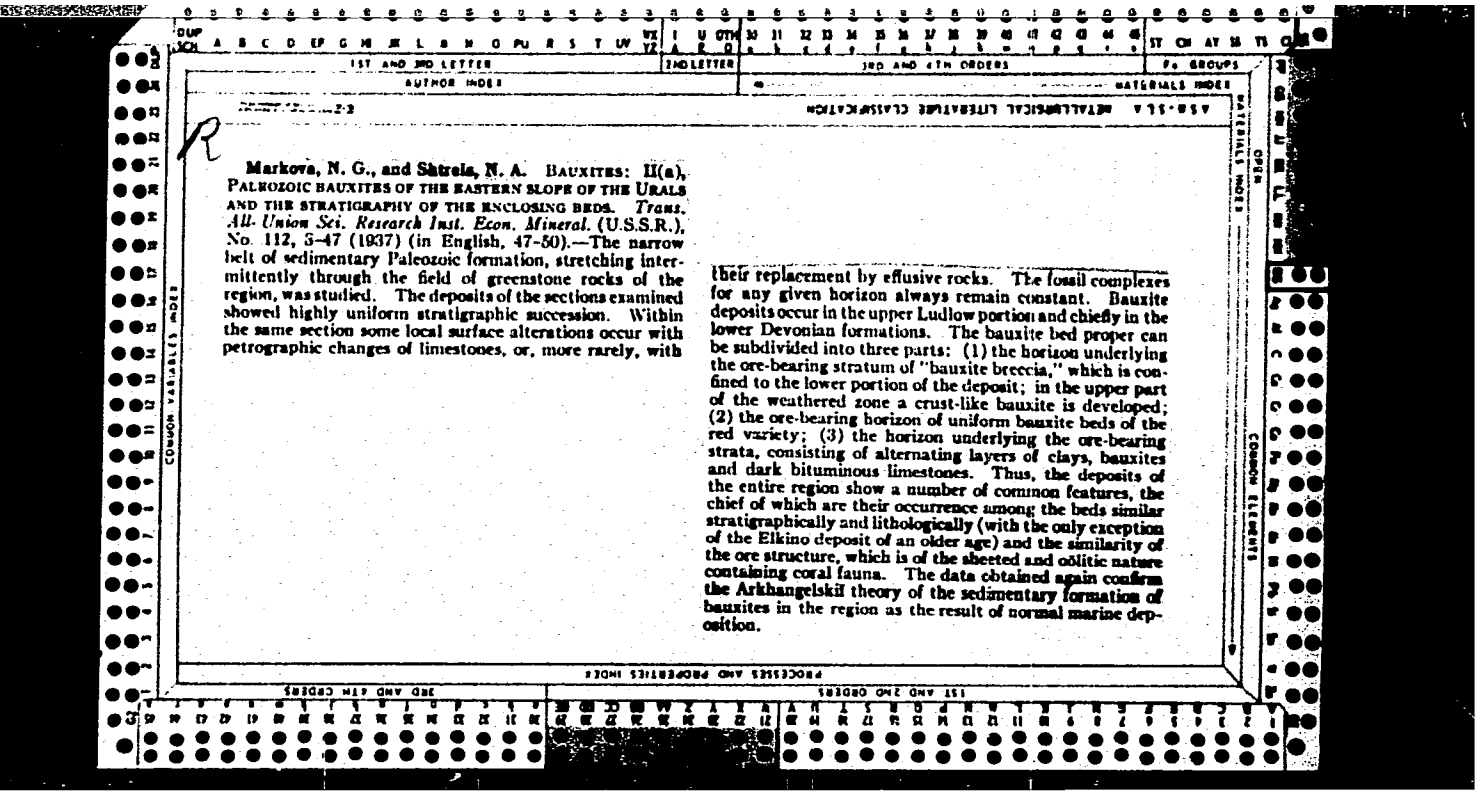
Hygienic problems in connection with the new design plan for the development of Leningrad. Trudy LSGMI no.68:8-15 '61.
(MIRA 15:11)

1. Kafedra kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. A.I.Shtreys).
(LENINGRAD--CITY PLANNING) (PUBLIC HEALTH)

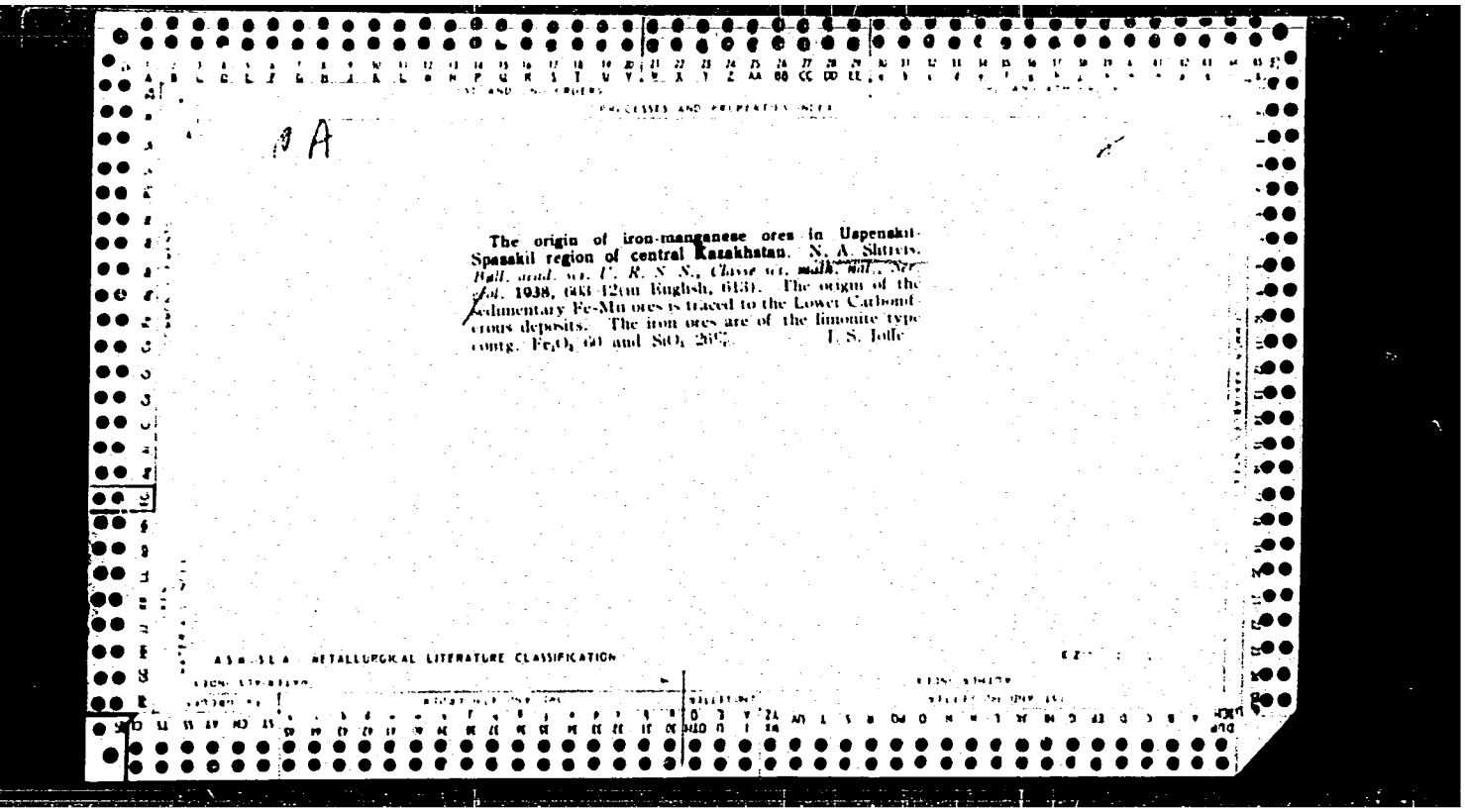
GOROMOSOV, M.S., doktor med. nauk; DANTSIG, N.M., prof.; KYUPAR, A.I., sanit. vrach; MINKH, A.A., prof.; PROKOF'YEV, A.P., dots.; SILIVANIK, K.Ye., doktor med. nauk [deceased]; UVAROV, M.M., kand. med. nauk; SHAFIR, A.I., prof.; SHTREYS, A.I., prof.; KROTKOV, F.G., prof., otv. red.; SELESKERIDI, I.G., red.; ROMANOVA, Z.A., tekhn. red.; MIRONOVA, A.M., tekhn. red.

[Manual on communal hygiene] Rukovodstvo po kommunal'noi gigiene. Moskva, Medgiz. Vol.3.[Hygiene of residential and public buildings] Gigiena zhilykh i obshchestvennykh zdanii. Red. toma Goromosov i A.I.Shafir. 1963. 486 p. (MIRA 17:2)

1. Deystvitel'nyy chlen AMN SSSR (for Krotkov). 2. Chlen-korrespondent AMN SSSR (for Minkh).



Markova, N. G., and Sàtrela, N. A. BAUXITES: II(a), PALEOZOIC BAUXITES OF THE EASTERN SLOPE OF THE URALS AND THE STRATIGRAPHY OF THE ENCLOSING BEDS. *Trans. All-Union Sci. Research Inst. Econ. Mineral.* (U.S.S.R.), No. 112, 3–47 (1937) (in English, 47–50).—The narrow belt of sedimentary Paleozoic formation, stretching intermittently through the field of greenstone rocks of the region, was studied. The deposits of the sections examined showed highly uniform stratigraphic succession. Within the same section some local surface alterations occur with petrographic changes of limestones, or, more rarely, with their replacement by effusive rocks. The fossil complexes for any given horizon always remain constant. Bauxite deposits occur in the upper Ludlow portion and chiefly in the lower Devonian formations. The bauxite bed proper can be subdivided into three parts: (1) the horizon underlying the ore-bearing stratum of "bauxite breccia," which is confined to the lower portion of the deposit; in the upper part of the weathered zone a crust-like bauxite is developed; (2) the ore-bearing horizon of uniform bauxite beds of the red variety; (3) the horizon underlying the ore-bearing strata, consisting of alternating layers of clays, bauxites and dark bituminous limestones. Thus, the deposits of the entire region show a number of common features, the chief of which are their occurrence among the beds similar stratigraphically and lithologically (with the only exception of the Elkino deposit of an older age) and the similarity of the ore structure, which is of the sheeted and oölitic nature containing coral fauna. The data obtained again confirm the Arkhangelskii theory of the sedimentary formation of bauxites in the region as the result of normal marine deposition.



9A

The origin of iron-manganese ores in Uspenskii-Spasskii region of central Kazakhstan. N. A. Shtreis. *Bull. acad. sci. U. R. S. S., Classe sci. math., nat., Sér. fiz.* 1938, 643-12(in English, 653). The origin of the sedimentary Fe-Mn ores is traced to the Lower Carboniferous deposits. The iron ores are of the limonite type containg. Fe_2O_3 60 and SiO_2 20%. I. S. Iofis

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SA 20/5, 1 47

PEYVE, A.V.; SHTREYS, N.A., red.

[Tectonics of the bauxite belt in the northern Ural Mountains] Tektonika Severoural'skogo boksitovogo poiasa. Moskva, Izd-vo Mosk. ob-va ispytatelei prirody, 1947. 207 p. (Materialy k poznaniiu geologicheskogo stroeniia SSSR, no.4). (MIRA 11:4)
(Ural Mountains--Geology, Structural)
(Bauxite)

SHTREYS, N.A.; KOLOTUKHINA, S.Ye.

Geological structure of the Ortau and Kos-Murun Hills in the Zhana-Arka District of Karaganda Province. Trudy Inst.geol.nauk no. 101:69-124 '48. (MLRA9:12)
(Zhana-Arka District--Geology, Structural)

SHTREYS, N. A.

"Stratigraphy and Tectonics of the Middle Section of the Ural Mountains." Thesis for degree of Dr. Geological-Mineralogical Sci. Sub 3 Jun 49, Inst of Geological Sciences, Acad Sci USSR.

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

[illegible], A. A.

Geography & Geology

(Stratigraphy and tectonics of the greenstone belt of the middle Urals) Moskva, Izd-vo Akademiya Nauk SSSR. Vol. 3, 1951.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, July 1952. Uncl.

SHTREYS, N. A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Shtreys, N. A.	"Stratigraphy and Tectonics of the Greenstone Belt of the Central Urals"	Institute of Geological Sciences, Academy of Sciences USSR

SO: W-30604, 7 July 1954

KHERASKOV, N.P.; KELLER, B.M.; SHTREYS, N.A.

Geological formations (results of the conference on formations held in the Western Siberian Branch of the Academy of Sciences of the U.S.S.R.). Izv. AN SSSR. Ser.geol. no.4:147-150 Jl-Ag '53. (MLRA 6:8)
(Geology--Congresses) (Congresses--Geology)

PEYVE, A.V.; KHERASKOV, N.P.; SHTREYS, N.A.; YANSHIN, A.L.

Nikolai Sergeevich Shatskii; on the occasion of his 60th birthday.
Izv.AN SSSR. Ser.geol.20 no.5:3-13 S-O'55. (MLRA 8:12)
(Shatskii, Nikolai Sergeevich, 1895-)

MASLOV, V.P.; SHATSKIY, N.S., akademik, glavnyy redaktor; SHTREYS, N.A., otvetstvennyy redaktor; IL'INA, N.S., redaktor izdatel'stva; LADYCHUK, L.P., redaktror izdatel'stva; KASHINA, P.S., tekhnicheskiy redaktor.

[Fossil calcareous algae of the U.S.S.R.] Iskopaemye izvestkovye vodorosli SSSR. Moskva, Izd-vo Akademii nauk SSSR, 1956. 300 p. (Akademiia nauk SSSR. Institut geologicheskikh nauk. Trudy, no.160)
(Algae, Fossil) (MLRA 9:12)

SHATSKIY, N.S.

SHATSKIY, N.S.; BOGDANOV, A.A.; BELYAYEVSKIY, N.A.; VERESHCHAGIN, V.I.; ZAYTSEV, N.S.; KOSYGIN, Yu.A.; KROPOTKIN, P.N.; MURATOV, M.V. NAGIBINA, M.S.; OGNEV, V.N.; PAVLOVSKIY, Ye.V.; PEYVE, A.V.; PUSHCHAROVSKIY, Yu.M.; SALOP, L.I.,; SOBOLEVSKAYA, V.N.; KHARITONOV, L.Ya.; KHERASKOV, N.P.; SHEYNMAN, Yu.M.; SHTREYS, N.A.; YANSHIN, A.L.; VERSTAK, G.V. redaktor izdatel'stva; GUROVA, O.A. tekhnicheskiy redaktor

[Tectonic map of the U.S.S.R. and adjacent countries on a scale of 1:5,000,000; explanatory notes] Tektonicheskaia karta SSSR i sopredel'nykn stran v masshtabe 1:5,000,000; ob"iasnitel'naia zapiska. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1957. 77 p. (MLRA 10:5)

1. Akademiya nauk SSSR.
(Russia--Geology--Maps)

SAFIANO, Tat'yana Alekseyevna; KORZHINSKIY, D.S., akademik, redaktor; BORNEMAN, I.D., doktor geologo-mineralogicheskikh nauk, redaktor; VAKHRAMEYEV, V.A., doktor geologo-mineralogicheskikh nauk, redaktor; GROMOV, V.I., doktor geologo-mineralogicheskikh nauk, redaktor; KELLER, B.M., doktor geologo-mineralogicheskikh nauk, redaktor; LEBEDEV, A.P., doktor geologo-mineralogicheskikh nauk, redaktor; KHAIN, V.Ye., doktor geologo-mineralogicheskikh nauk, redaktor; SHTREYS, N.A., doktor geologo-mineralogicheskikh nauk, redaktor; YABLOKOV, V.S., kandidat geologo-mineralogicheskikh nauk, redaktor; MERKLIN, R.L., kandidat biologichpskikh nauk, redaktor; VAYSMAN, L.S., nauchnyy sotrudnik, redaktor; SLAVYANOVA, N.F., nauchnyy sotrudnik, redaktor; LEPESHINSKAYA, Ye.V., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[English-Russian geological dictionary] Anglo-russkii geologicheskii slovar'. Pod red. D.S.Korzhinskogo i dr. Moskva, Gos. izd-vo tekhniko-teoret.lit-ry, 1957. 528 p. (MIRA 10:7)
(English language--Dictionaries--Russian)
(Geology--Dictionaries)

KHOMENTOVSKIY, Vsevolod Vladimirovich; SHATSKIY, N.S., akademik, glvanyy red.; SHTREYS, N.A., otv. red.; KOTLYAREVSKAYA, P.S., red. izd-va; RYLINA, Yu.V., tekhn. red.

[Geological structure and development of the East-Ural anticlinorium in the central Ural region] Geologicheskoe stroenie i istoriia razvitiia Vostochno-Ural'skogo antiklinoriia na Sredrem Urale. Moskva, Izd-vo Akad. nauk SSSR, 1958. 68 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.7). (MIRA 11:5)
(Ural Mountain region--Geology)

POKROVSKAYA, Nina Vasil'yevna; SHTREYS, N.A., otv.red.; CHEPIKOVA, I.M., red.izd-va; MAKUNI, YE.V., tekhn.red.

[Agnostidae of the middle Cambrian of Yakutia] Agnostidy srednego kembriia IAkutii. Moskva, Izd-vo Akad. nauk SSSR. 1958. 95 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy no.16) (MIRA 12:11)

(Yakutia--Trilobites)

SHTREYS, A.I., dots.

An old hospital for treating communicable disease; on the 75th anniversary of the S.P.Botkin Hospital in Leningrad. Sov.med. 22 no.3:138-141 Mr '58. (MIRA 11:4)

1. Iz kafedry kommunal'noy gigiyeny Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(HOSPITALS
S.P.Botkin Hosp., Leningrad (Rus))

SHATSKIY, N.S., akademik, otv.red.; KELLER, B.M., doktor geol.-min.nauk, red.; MENNER, V.V., prof., red.; RAABEN, M.Ye., kand.geol.-min. nauk, red.; SHTREYS, N.A., doktor geol.-min.nauk, red.; CHEPIKOVA, I.M., red.izd-va; MARKOVICH, S.G., tekhn.red.

[Late Pre-Cambrian and Cambrian stratigraphy] Stratigrafiia pozdnego dokembriia i kembriia. Moskva, Izd-vo Akad.nauk SSSR, 1960. 207 p. (Doklady sovetskikh geologov. Problema 8). (MIRA 13:10)

1. International Geological Congress. 21st, Copenhagen, 1960. (Geology, Stratigraphic--Congresses)

PEYVE, A.V., otv.red.; BELOUSOV, V.V., red.; FEDYNSKIY, V.V., red.; KHAIN, V.Ye., red.; SHATSKIY, N.S., red.; SHTREYS, N.A., red.; YANSHIN, A.L., red.; PUSHCHAROVSKIY, Yu.M., red.izd-va; VOLKOVA, V.V., tekhn.red.

[Structure of the earth's crust and the deformation of rocks] Struktura zemnoi kory i deformatsii gornykh porod. Moskva, Izd-vo Akad.nauk SSSR, 1960. 239 p. (Doklady sovetskikh geologov. Problema 18). (MIRA 13:10)

1. International Geological Congress. 21st, Copenhagen, 1960. (Geology, Structural--Congresses)

PAVLOVSKIY, Ye.V.; SHTREYS, N.A.

Fourth session of the International Association for the Study of Crustal Subsurface Zones. Izv. AN SSSR. Ser. geol. 25 no.2:125-128 F '60. (MIRA 13:10)

(Geology)

SHATSKIY, N.S.; KORZHINSKIY, D.C.; YANSHIN, A.L.; PEYVE, A.V.; SHTREYS, N.A.; YABLOKOV, V.S.; TIKHOMIROV, V.V.

N.V.Frolova (1907-1960); obituary. Izv. AN SSSR. Ser. geol. 25 no.9:135 S '60. (MIRA 13:9)
(Frolova, Natal'ia Vasil' evna, 1907-1960)

MARKOV, Mark Solomonovich; SHTREYS, N.A., otv.red.; TUGOLESOV, D.A., red. izd-va; YEGOROVA, N.F., tekhn.red.

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SHTREYS, YA. I.

SHEKALOV, A.A.; SHTREYS, Ya.I.; FOGEL', A.A., kandidat tekhnicheskikh nauk, redaktor; BLINOV, B.V., inzhener, retsenzent; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Smelting in coreless-type induction furnaces] Plavka v besserdechnikovykh induktsionnykh pechakh. Pod red. A.A.Fogelia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 29 p. (Bibliotechka vysokochastotnika-termista, no.14) (MLRA 7:11)
(Induction heating) (Smelting)

SHTREYS, YA.I.

Call Nr: AF 1140766

AUTHOR: Shekalov, A.A., Shtreys, Ya.I., Blinov, B.V.

TITLE: Melting in Small Coreless-Induction Furnaces (Plavka v malykh besserdechnikovykh induktsionnykh pechakh)

PUB. DATA: Gosudarstvennoye nauchno-tekhnicheskoye izdatel'stvo mashinostroitel'noy literatury; Moscow-Leningrad, 1957 (2-nd edition), 53 pp. 10,000 copies.

ORIG. AGENCY: Leningrad Division of Mashgiz (State Scientific and Technical Publishing House of Literature on Machine Building)

EDITOR: Fogel', A.A., Candidate of Techn. Sc.; Reviewer: Donskoy, A.V., Professor, Doctor of Techn. Sc.; Editorial Staff: Fogel', A.A., Candidate of Techn.Sc.,

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Call Nr: AF 1140766

Melting in Small Coreless-Induction Furnaces (Cont.)

Chief Editor of 2nd ed.; Spitsyn, M.A., Candidate of Techn. Sc.; Slukhotskiy, A.Ye., Candidate of Techn.Sc.; Glukhanov, N.P., Candidate of Techn.Sc.; Bamuner, A.V., Eng., Editor of the Leningrad Division of Mashgiz: Bol'-shakov, M.A., Eng.; Editor-in-Chief of the State Scientific and Technical Publishing House of Literature on Machine Building: Simonovskiy, N.Z.; Tech. Ed.: Sycheva, O.V.; Proofreader: Khoroshkevich, V.M.

PURPOSE: The present brochure is one of the "Pocket Library of the High-Frequency Furnace Operator" (Bibliotechka vysokochastotnika-termista) series publications. The purpose of this series is to present the latest achievements in the field of high-frequency practice, the scientific findings of the High-Frequency Power Institute (Institut tokov vysokoy chastoty) im. Professor V.P. Volog-din, and the practical findings gathered in this field of technology in the Soviet Union and abroad, in order to further the wide introduction of high-frequency melting methods and advanced metallurgical production methods. The brochures are written for the rank and file workers of the metallurgical industry.

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Melting in Small Coreless-Induction Furnaces (Cont.)

COVERAGE: The authors explain the basic principles of the coreless-induction furnace melting practices with access of air, in a vacuum, and in various protective media. They describe the construction of various melting furnaces, the preparation of the crucible, and different melting methods. Some of the data refer to the smelting furnaces which have been developed jointly by the "Elektrik" Plant and the laboratory of Professor V.P. Vologdin, a Soviet pioneer in the field of induction melting. These furnaces range in capacity from 10—3,000 kg. They have been installed at many Soviet industrial plants by the "Elektroprom" Organization. The authors list no bibliographical references.

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Melting in Small Coreless-Induction Furnaces (Cont.)

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Shtreys, Ya. I.

129-4-6/12

AUTHORS: Shekalov, A.A., Candidate of Technical Sciences, and Shtreys, Ya. I., Engineer.

TITLE: Investigation of the mechanical and the magnetic properties of Fe-Ni-Al alloys intended for permanent magnets. (Issledovaniye mekhanicheskikh i magnitnykh svoystv Fe-Ni-Al splavov dlya postoyannykh magnitov).

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, No.4, pp. 29-38 (USSR).

ABSTRACT: Relatively little attention has been paid up to now to studying the mechanical properties of Fe-Ni-Al alloys. Published information relates to a small number of compositions and, therefore, does not bring out fully the changes in the mechanical properties brought about by the differing compositions used for manufacturing permanent magnets. The authors of this paper studied systematically the mechanical properties of the ternary system Fe-Ni-Al alloys and of quaternary alloys with copper. Furthermore, they investigated the influence of admixtures of sulphur, titanium and lithium on the mechanical and magnetic properties of these alloys. For the investigations alloys of 21 compositions were chosen with concentrations corresponding to those used

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Investigation of the mechanical and the magnetic properties of Fe-Ni-Al alloys intended for permanent magnets.

for manufacturing permanent magnets. Thus, the Fe angle of the diagram of state of Fe-Ni-Al system was used for compositions located on five cuts of the diagram passing through the Fe angle and corresponding to the Ni/Al content ratios (in at.%) of 1.73; 1.26; 0.96; 0.78; 0.33. The influence of copper was studied on an alloy into which up to 12% copper was introduced instead of iron maintaining constant the contents of Ni and Al. The chemical compositions of the investigated alloys are entered in Table 1, p.30. The influence of sulphur was investigated on three alloys containing: 25% Ni, 15% Al, rest Fe; 29% Ni, 11% Al, 10% Cu, rest Fe; 25% Co, 15% Ni, 9% Al, 3% Cu, rest Fe. The sulphur addition was varied up to contents of 0.5%. The influence of Ti and Ni was studied on the last mentioned alloy by introducing up to 2% Ti and up to 0.3% Li. The alloys were produced in a high frequency induction furnace from commercially pure metals. The author deals in some detail with the results obtained relating to the mechanical and magnetic properties and these are entered in tables and diagrams.

Card 2/5 They arrived at the following conclusions:

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Investigation of the mechanical and the magnetic properties of Fe-Ni-Al alloys intended for permanent magnets.

1. Nickel improves the strength of Fe-Ni-Al alloys and also the impact strength in the as cast and in the hardened states. An increase in the aluminium content brings about a reduction of the strength and the impact strength of the alloys.
2. Introduction of up to 6% copper reduces the bending and torsion strength but increases the impact strength of the alloy; with higher copper contents the effect of copper seems to change into the opposite direction. An increase in the copper content above 6% involves practically no change in the torsion strength.
3. Variation of the contents of Ni, Al and Cu does not solve the problem of obtaining alloys with a satisfactory combination of magnetic and mechanical properties; for obtaining optimum magnetic properties of alloys with good mechanical properties it is necessary to apply high heating temperatures and rapid cooling which may lead to crack formation and higher reject percentages.
4. Sulphur increases the bending and torsion strength and improves greatly the grinding properties of Fe-Ni-Al alloys; the highest impact strength is obtained for

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Investigation of the mechanical and magnetic properties of the Fe-Ni-Al alloys intended for permanent magnets.

0.2 to 0.3% S. The magnetic properties remain practically unchanged for sulphur additions up to 0.2% but drop if the sulphur content is higher. The best combination of magnetic and mechanical properties is obtained for alloys containing 0.2% S. Sulphur should be introduced in such materials for improving the mechanical properties and the machineability.

5. Addition of 0.5 to 1% Ti improves the strength and the impact strength of one of the tested alloys (AHKo-4). A further increase in the titanium content leads to a deterioration of the mechanical properties. Titanium increases the coercive force, reduces residual induction and the maximum magnetic energy of the alloy. Titanium addition should be utilised for cobalt containing alloys (AHKo-1 and AHKo-4) for the purpose of obtaining alloys with various combinations of the coercive force and the residual induction.

6. Addition of lithium improves the strength and to some extent also the magnetic properties of one of the alloys (AHKo-4). The best combination of magnetic and mechanical properties is obtained for alloys containing 0.05% Li. The advisability of adding lithium to commercially

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Investigation of the mechanical and the magnetic properties of Fe-Ni-Al alloys intended for permanent magnets.

produced Fe-Ni-Al alloys requires further study.
7. Torsion is a reliable method of mechanical testing of Fe-Ni-Al alloys since in this case the scattering of results is lowest.
There are 12 figures, 3 tables and 4 references - 3 Russian, 1 English.

ASSOCIATION: **Scientific Research Institute of High-frequency Current imeni V. P. Vologdin**
(NII **t.v.ch.** imeni V. P. Vologdina).

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S/120/63/000/001/015/072
E039/E420

AUTHORS: Gurevich, A.G., Starobinets, S.S., Men Hsiang-Chen, Safant'yevskiy, A.P., Shtreys, Ya.I., Shekalov, A.A.

TITLE: Apparatus for investigating ferromagnetic resonance

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1963, 73-77

TEXT: An apparatus for determining ferromagnetic resonance (FMR) in ferrites with narrow resonance curves in the 3 cm region and for a temperature range from -190 to +400°C is described. The sample is spherical (0.3 to 0.8 mm diameter) and is located in a rectangular resonator with a type TE_{106} (TYe_{106}) oscillator. The magnetic field is provided by means of a permanent magnet with a shunt and modulating coils which enables a high accuracy to be obtained using a recorder. Temperature control of the sample is achieved by blowing either a hot or cold jet of gas over it. This apparatus permits the investigation of FMR curves with widths less than 0.5 Oe and up to about 50 Oe. The range can be increased by increasing the number of turns on the coil of the magnet system. Lower temperatures can be achieved either by pumping nitrogen or, for a much lower temperature, by using

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[illegible] V-RESOVSKIY, N.V.; SHTREZSMAN, Ye.

Species formation in the subspecies chain of true gulls of the group herring gull - laughing gull - lesser black-headed gull. Trudy Ural. obs. FOIP no.2:99-115 '59. (MIRA 14:11)
(Gulls)