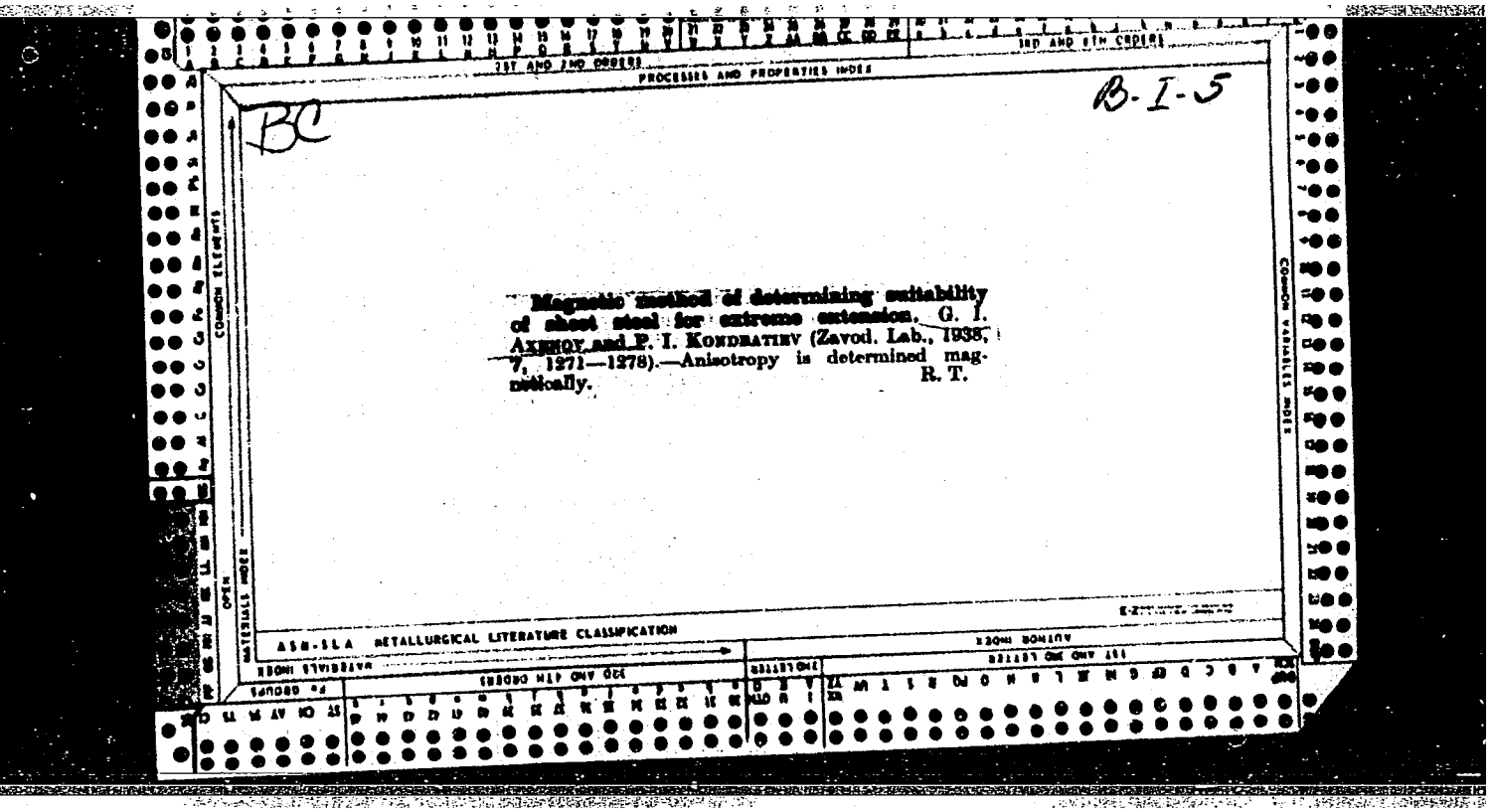
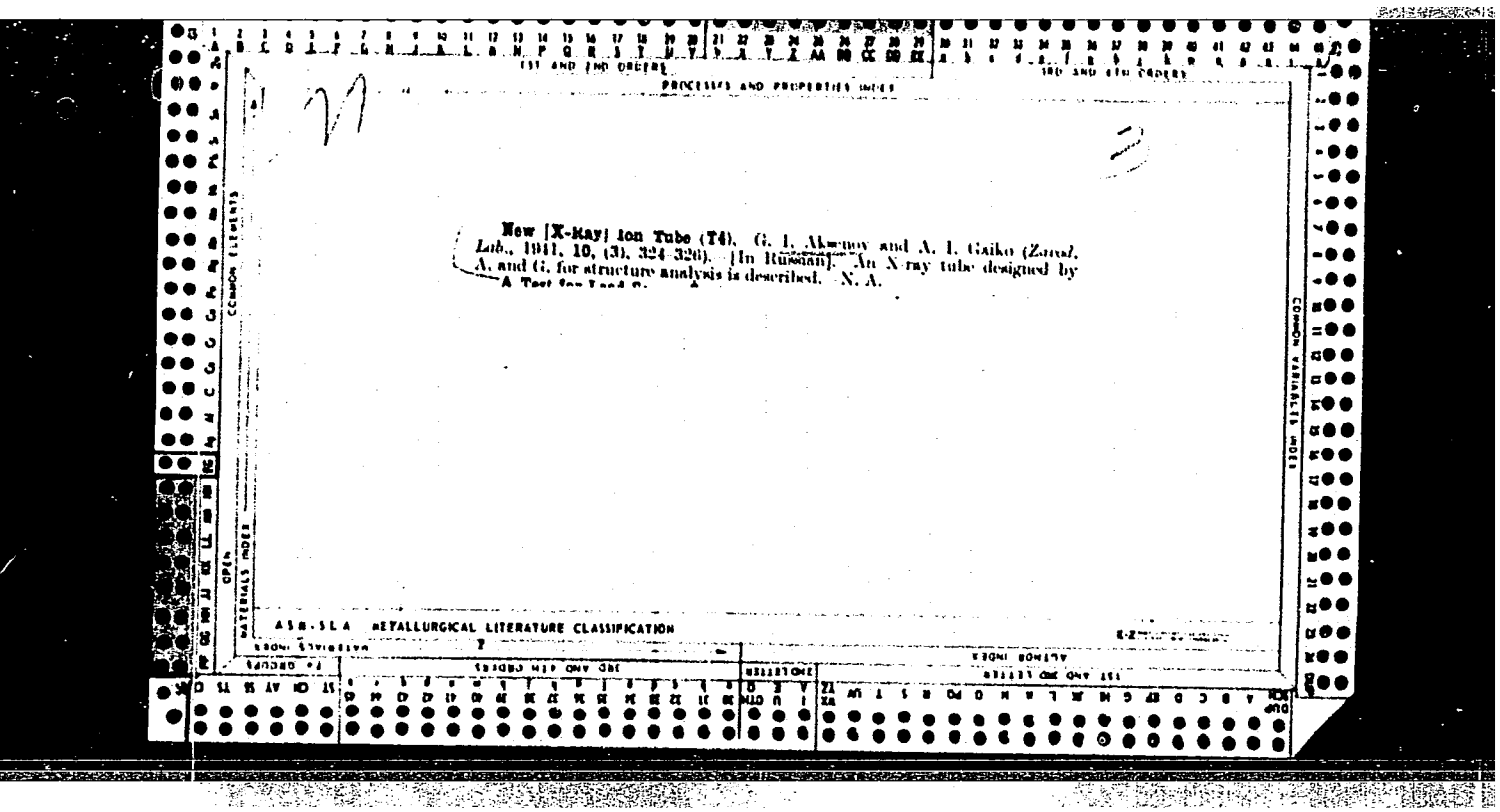


BC

B-I-5

Magnetic method of determining suitability of sheet steel for extreme extension. G. I. AXENOV and P. I. KONDRATIEV (Zavod. Lab., 1938, 7, 1271—1278).—Anisotropy is determined magnetically. R. T.



New [X-Ray] Ion Tube (T4). G. I. Akimov and A. I. Gaiko (*Zavod. Lab.*, 1941, 10, (3), 324–326). [In Russian]. An X-ray tube designed by A. and G. for structure analysis is described. N. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AKSENOV, G. I., KRITSKAYA, V. K., GUBCHEVSKIY, P. V., SOKOLOV, N. A., SOBOLEVSKIY, I. A., and TAGUNOVA, T. V.

"Production of Autofrettaged Ingot Molds from Conversion Pig Irons of the First Smelting," Stal', No.5, pp. 363-67, 1945

Evaluation B-59660

AKSENOV, G. I. and SOBOLEVSKIY, I. A.

"Improving the Life of Alloy Rolls," Stal', No.6, pp. 493-94, 1946

Evaluation B-61757

AKSENOV, G.I., prof.; KONDRAT'YEV, P.I.

Selecting best conditions for x-ray measurement of strains. Probl. metalloved. i fiz. met. no.[1]:333-343 '49. (MIRA 11:4)

1. Laboratoriya napryazheniy TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii.
(Strains and stresses)
(X rays--Industrial applications)

AKSENOV, G.I., prof; KRITSKAYA, V.K., kand.fiz.-mat.nauk; SOBOLEVSKIY, I.A.; TAGUNOVA, T.V.

New method of measuring heat stresses on metalwork surfaces. Probl. metalloved.i fiz. met. no.[1]:344-345 '49. (MIRA 11:4)

1.Laboratoriy a napryazheniy TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii.
(Metals, Effect of temperature on)
(Surfaces)

AKSENOV, G.I., prof.; TAGUNOVA, T.V.

Effect of repeated heating on the mechanical properties of gray cast iron. Probl.metalloved.i fiz. met. no.[1]:322-332 '49.
(MIRA 11:4)

1.Laboratoriya napryazheniy TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii.
(Cast iron) (Metals, Effect of temperature on)

AKSENOV, G. I., Professor

"Stresses in Casting Molds." Sub 12 Apr 51, Moscow Order of the Labor Red Banner Steet Inst imeni I. V. Stalin.

crease. Increasing the copper content reduces the rate of strengthening, a fact most noticeable at high temperature. Additional pressing of the sintered specimens causes a rapid increase in hardness during the first hours of soaking.

Card : 1/1

AKSENOV, G.I.

USSR / Diffusion. Sintering. E-6

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9346

Author : Aksenov, G.I., Sorokin, V.K.
Inst : Gor'kiy Polytechnic Institute, USSR
Title : On the Structure of Metal-Ceramic Alloys of Iron-Carbon-Copper

Orig Pub : Poroshkovaya Metallurgiya, Yaroslavl', 1956, 79-82

Abstract : It is shown that the change in the thermal conditions of the carbonization sintering makes it possible to obtain austenite with varying concentrations of carbon. In carbonization sintering of pressed specimens made of an iron-copper charge there occurs predominantly diffusion of carbon along the boundaries of the metal grains. Addition of copper to the charge prevents the diffusion of carbon from the boundaries inside the grain of the metal.

Card : 1/1

TITLE: Experimental Test of the Influence of Crystallite Anisotropy on the Shape of the Debye Ring obtained from a Strained Sample (Eksperimental'naya proverka vliyaniya anisotropii kristallitov na formu debayevskogo kol'tsa ot napryazhennogo obraztsa)

(511) face is larger than that for a (310) face; the lines of a (112) face do not shift;

3. Debye line shift increases with the rise in strain.

4. Elastic deformation leads to the smearing of Debye lines; the magnitude of the smearing in all faces is greater than the shifting.

5. The character of smearing is different for different faces.

The theoretical calculations were tested in a specially designed chamber on an ionic X-ray tube. The results obtained are as follows:

1. The fact that the theoretical analysis almost completely coincides with experimental studies shows that crystallite anisotropy affects the behavior

Card 2/4

such as to

TITLE: Experimental Test of the Influence of Crystallite Anisotropy on the Shape of the Debye Ring obtained from a Strained Sample (Eksperimental'naya proverka vliyaniya anisotropii kristallitov no formu debayevskogo kol'tsa ot napryazhennogo obraztsa)

result in maximum line shift.

5. The elasticity modulus determined by the X-ray method differs from that determined by a mechanical method. The latter is isotropic, but the X-ray elasticity modulus is anisotropic;

6. Beyond the limits of elasticity, a polycrystallic body behaves as an isotropic substance.

4 figures and 1 table are given. There are 4 references, all Slavic (Russian).

INSTITUTION: Department of Metal Study in the Gor'kiy Polytechnic Institute im. Zhdanov

PRESENTED BY:

SUBMITTED: No date

AVAILABLE: At the Library of Congress

Card 4/4

SOV/126-7-6-7/24

AUTHORS: Aksenov, G. I. and Moshchanskiy, V. A.

TITLE: Crystallite Anisotropy and Debye Ring Structure in a Stressed Sample

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 7, Nr 6, pp 847-854 (USSR)

ABSTRACT: In 1929 one of the authors (Aksenov) analysed theoretically the reflection of monochromatic X-rays from atomic planes in a linearly stressed polycrystal. It was found that elastic deformation of the polycrystal should be accompanied by displacement of the Debye lines in X-ray diffraction patterns (Ref 1). In 1934 this theoretical analysis was extended by allowing for the anisotropy of the elastic properties of crystallites. It was then found that the Debye lines should be both displaced and broadened. The present paper is a continuation of the work just described. The authors calculate theoretically the conditions of reflection of monochromatic X-rays on the (112) and (310) faces of iron and the (511) face of aluminium, allowing for the anisotropy of the elastic properties of crystallites. This theoretical analysis led to the following conclusions.

Crystallite Anisotropy and Debye Ring Structure in a Stressed Sample

A) Extension of samples should be accompanied by the Debye line displacement and instead of a circle for an unstressed sample an ellipse should be obtained with semi-axes $a < b$. The axis b should lie along the direction of extension.
B) The Debye line displacement for the same direction of extension is different in the case of different faces. For example, for the (511) face the displacement is greater than for the (310) face and the (112) face lines are not displaced at all.
C) The Debye line displacement increases with increase of applied stress.
D) Broadening of the Debye lines should occur on elastic deformation and the degree of broadening may be greater or smaller than their displacement.
E) The broadening should be different for different faces.
The authors use an ionic X-ray tube with a special chamber to check experimentally their theoretical results. The chamber contained a device for producing pure bending of samples and a cassette which made it possible to record the whole Debye ring. Normalised 60S2 steel and duralumin

Crystallite Anisotropy and Debye Ring Structure in a Stressed Sample

were used as samples. The elastic limit of steel was 40-45 kg/mm^2 and that of duralumin was 20 kg/mm^2. The applied stresses were measured by means of resistance strain gauges. For each face the following X-ray patterns were recorded: one for the unstressed state, three for different stresses within the elastic limit (each of these was recorded twice), two outside the elastic limit and one for the unloaded sample after it had been tested. It was found that the Debye lines of an elastically deformed sample fall on an ellipse with semi-axes $a < b$ (Fig 1). The numerical values of the Debye line displacements are given in Table 1. Broadening of the Debye lines was studied by means of a microphotometer. The results are shown in Figs 2,3 and 4 for the faces (112), (301) and (511) respectively. The curves marked with 0 denote the unstressed state, all the other curves were obtained on stressed samples. Agreement between theory and experiment shows that anisotropy of individual crystallites is fully retained in a polycrystalline aggregate. Each crystallite behaves as a monocrystal on deformation of the sample. Within the elastic limit

SOV/126-7-6-7/24

Crystallite Anisotropy and Debye Ring Structure in a Stressed Sample

the deformation field in a polycrystal is discontinuous on transition from one crystallite to another if these crystallites are orientated differently. This produces broadening of the Debye rings in a stressed sample. The experimental results do not agree completely with the theoretical predictions. This is because the authors assume in their theoretical calculations that free anisotropic deformations of crystallites are possible without interaction of the neighbouring crystallites; the effect of the substance filling the inter-crystallite space was not allowed for either. Outside the elastic limit the interaction between individual crystallites becomes so great and the crystallite deformation is such that the anisotropic properties of crystallites are averaged out and the polycrystal behaves as an isotropic body, both from the macroscopic and microscopic points of view. There are 4 figures, 2 tables and 7 references, 5 of which are Soviet, 1 English and 1 German.

Card 4/4

ASSOCIATION: Gor'kovskiy politekhnicheskiy institut imeni A.A.Zhdanova (Gor'kiy Polytechnical Institute imeni A.A.Zhdanov)

SUBMITTED: October 31, 1957

AKSENOV, G.I.

PHASE I BOOK EXPLOITATION SOV/4508

Akademiya nauk SSSR. Institut metallurgii

Titan i yego splavy, vyp. 3: Metallovedeniye titana (Titanium and Its Alloys, No. 3: Metal Science of Titanium) Moscow, Izd-vo AN SSSR, 1960. 161 p. Errata slip inserted. 2,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: N.V. Ageyev, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: N.L. Podgoyetskiy; Tech. Ed.: Ye. V. Makuni.

PURPOSE: This collection of articles is intended for scientific research workers and metallurgical engineers.

COVERAGE: The articles summarize results of experimental studies of titanium-base alloys. The microstructure and mechanical properties of titanium-base alloys containing aluminum, chromium or other metals are analyzed along with the effect of oxygen, hydrogen and heat treatment on alloy structure and properties. The tendency of titanium alloys to embrittlement as a result of strain aging is emphasized, and the nitriding of titanium, carried out to increase the surface strength and wear resistance of titanium alloys, is described. Transformations occuring in commercial titanium under conditions of electric heating are examined. Attempts to develop titanium-base alloys capable of withstanding temperatures over 400°C are discussed as are problems of titanium-powder metallurgy and weldability of certain titanium-base alloys. No personalities are mentioned. Most of the articles have bibliographic references, the majority of which are Soviet.

TABLE OF CONTENTS:

2/6

S/126/60/009/01/030/031
E021/E191

AUTHORS: Aksenov, G.I., and Sidnikhin, A.I.

TITLE: The Problem of the State of Intercrystalline Transition Zones in Metallic Polycrystals. Letter to the Editor.

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 1, pp 156-158 (USSR)

ABSTRACT: The alloy EI437B was investigated by two methods. The first method was dissolving the alloy in a reagent of composition $CuSO_4.5H_2O$ - 150 g, H_2SO_4 - 35 cm^3, HCl - 500 cm^3. After quenching the alloy from 1050-1280 °C, the maximum rate of solution occurred in the region of the grain boundaries. The smallest amount of cold work removed the preferential solution of the material in the intercrystalline zone. Further cold work led to slower solution at the grain boundaries than the grains themselves, leaving the grain boundaries as ridges. This is explained by the hypothesis that the grain boundaries of undeformed material contain excess dislocations which have "atmospheres" around them easily dissolved. Plastic deformation will remove the excess dislocations, leaving behind them the former

Card 1/2

AKSENOV, G.I.; MOSHCHANSKIY, V.A.

Response to O.N. Shivrin concerning his article on the "anisotropy of crystallites." Fiz. met. i metalloved. 10 no.4:639-640 O '60. (MIRA 13:11)

(Metal crystals) (Anisotropy)
(Shivrin, O.N.)

PHASE I BOOK EXPLOITATION SOV/5511

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

Metallovedeniye i termicheskaya obrabotka (Physical Metallurgy and Heat Treatment of Metals) Moscow, Mashgiz, 1961. 336 p. Errata slip inserted. 5,000 copies printed.

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

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

Card 1/10

Card 2/10

Physical Metallurgy (Cont.) SOV/5511

Card 3/10

AVAILABLE: Library of Congress

Card 10/10

VK/wrc/os
8/26/61

18141 1045, 1496, 1953

S/126/61/012/002/002/019
E073/E335

AUTHORS: Aksenov, G.I. and Orekhov, Yu.P.

TITLE: Investigation of Magnetically Soft Sintered Alloys of the System Fe-Si

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol. 12, No. 2, pp. 183 - 187

TEXT: The influence was investigated of the Si content (0 - 10%), the specific pressing pressure (5, 10 and 15 t/cm^2) and of the sintering temperature (1 000, 1 100, 1 200 and 1 300 °C) on the magnetic properties of Fe-Si alloys sintered in a reducing atmosphere for 20 hours. During the sintering, the temperature gradient did not exceed ± 20 °C. The investigations have shown that the best combination of properties can be obtained by using Si additions in the range of 5-8%. The optimum magnetic properties in the case of an alloy containing 6.5% Si was obtained for a pressing pressure of 15 t/cm^2 and a sintering temperature of 1 300 °C. These were:

Card 1/2

AKSENOV, Gennadiy Ivanovich, doktor tekhn. nauk; MIKHEYEV, N.I., red.; DURASOVA, V.M., tekhn. red.

[Principles of powder metallurgy]Osnovy poroshkovoi metallurgii. Kuibyshev, Kuibyshevskoe knizhnoe izd-vo, 1962. 188 p. (MIRA 15:10)

(Powder metallurgy)

I 1600

39926

S/226/62/000/003/004/014
I003/I203

AUTHOR: Aksenov, G. I., Minayev, Ye. M. and Strizhikova, Z. I.

TITLE: Microstructural investigation of metal powder particles

PERIODICAL: Poroshkovaya metallurgiya, no. 3, 1962, 24–30

TEXT: A new method of preparation of samples for a microstructure study of single grains of powders, permits the investigation of their dimensions, shape and structure, in a condition unaltered by the process of preparation of the cross-section, using epoxide resins with hardeners of the polyethylene-polyamine type which can be hardened at room temperature. The structure of the powders is affected by the methods of their preparation and subsequent treatment. Microstructures of iron and stainless steel powders, after various processes are shown. There are 5 figures.

ASSOCIATION Kuibyshevskiy aviatsionnyy institut (Kuibyshev Aviation Institute)

SUBMITTED: November 9, 1961

Card 1/1

S/032/62/028/012/009/023
B108/B186

AUTHORS: Aksenov, G. I., Bykhovskiy, Yu. S., and Minayev, Ye. M.

TITLE: A method of non-contact measurement of the electrical conductivity of nonmagnetic materials

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 12, 1962, 1467 - 1469

TEXT: A method to measure the electrical resistance of pressed metal powder rings without the specimens being in electrical contact was developed. The ring to be examined is placed on a transformer yoke as the secondary winding. By adjusting equal magnetic fluxes through the specimen O and through the standard coil w_2 (indicated at the zero bridge with windings w_3, w_4 and rectifiers B_1 and B_2) one can calculate the resistance of the specimen from the equation $R_{sp} = R/w_2^2$, since the specimen constitutes only one turn. R is the resistance of the resistor and capacitor sets. The error in determining the resistivity of copper specimens does not exceed 0.3%, that for stainless steel is 1% at most. There are 3 figures.

Card 1/2

ASSOCIATION: Kuybyshevskiy aviatsionnyy institut (Kuybyshev Aviation Institute)

Card 2/2

PHASE I BOOK EXPLOITATION SOV/6269

Aksenov, Gennadiy Ivanovich, Doctor of Technical Sciences

Osnovy poroshkovoy metallurgii (Fundamentals of Powder Metallurgy). [Kuybyshev] Kuybyshevskoye knizhnoye izd-vo, 1962. 188 p. Errata slip inserted. 2000 copies printed.

Ed.: N. I. Mikheyev; Tech. Ed.: V. M. Durnsova.

PURPOSE: This book is intended for the personnel of machine-building and metalworking plants and of scientific research institutes.

COVERAGE: The book reviews present methods of producing metal powders, their properties, methods of application, and preparation for compacting. Equipment used in powder metallurgy, die designs and their elements, and die-parameter calculations are described. Methods of manufacturing metal-powder parts and the inspection of finished products are discussed. No personalities are mentioned. There are 65 references: 56 Soviet, 6 English, and 3 German.

Card 1/[illegible]

AKSENOV, G.I.

AID Nr. 983-3 5 June

SINTERING OF COMPACTED OXIDIZED COPPER POWDERS (USSR)

Aksenov, G. I., and I. A. Drozdov. Poroshkovaya metallurgiya, no. 2, Mar-Apr 1963, 14-21. S/226/63/000/002/002/014

The Kuybyshev Aviation Institute has compared the sintering behavior of copper powders reduced from scale at 250°C (powder A) and at 600°C (powder B), compacted under a pressure of 1-3, 5, 7, 9, 11, or 13 ton/cm² from 75-90-μ fractions of powders, and sintered in a current of H_2 for 30 min at a temperature of 980°C reached at a rate of 20 deg/min. It was found that the final density of sintered compacts generally increased with increased sintering temperature. However, A compacts grew in the 400-550°C range and B compacts in the 800-1000°C range. When compacted at a pressure below 7 ton/cm², sintered compacts of powder A were denser than compacts of powder B. The maximum density in both compacts was achieved with a compacting pressure of 5 ton/cm².

Card 1/2

AID Nr. 983-3 5 June

SINTERING OF COMPACTED OXIDIZED [Cont'd] S/226/63/000/002/002/014

An important factor affecting final density of sintered oxidized-powder compacts is the heating rate in sintering, since increasing pressure of gases with rapidly increasing temperature strongly counteracts sintering. Thus, slower or stepwise heating with a holding at the temperature of gas liberation from the surface of powder particles, i.e., at 400-500°C, would be more effective. [MS]

Card 2/2

EWT(d)/EWT(1)/EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/
ACC NR: AT6003102 EWA(h)/ETC(m)-6 LJP(c) UR/3181/63/000/015/0309/0314
JD/WW/EM

AUTHOR: Aksenov, G.I.; Morozov, N.P.

ORG: None

64
64
B+1

TITLE: A graphic method for calculating the temperature field in the heat treatment of cylinders 24

SOURCE: Kuybyshev. Aviats onnyy institut. Trudy, no.15, pt.2, 1963. Doklady kustovoy nauchno-tekhnicheskoy konferentsii po voprosam mekhaniki zhidkosti i gaza (Reports of the Joint scientific-technical conference on problems of the mechanics of liquid and gas), 309-314

TOPIC TAGS: heat conduction, metal heat treatment

ABSTRACT: The article constitutes an attempt to develop a graphic method of taking into account the dependence of the heat conductivity coefficient, λ, and the specific heat capacity, C, on temperature in calculation of the temperature field. For constant λ and C, the differential heat conduction equation for a cylinder is written:

$$\frac{\partial t}{\partial \tau} = a\left(\frac{\partial^2 t}{\partial r^2} + \frac{1}{r}\frac{\partial t}{\partial r}\right), \qquad (1)$$

Card 1/2

L 15713-66

ACC NR: AT6003102

2

where $a=\frac{\lambda}{c\gamma}$ is the thermal diffusivity coefficient. The article proceeds to a methematical solution based on the above premises. The method was used for calculation of the temperature fields in surface hardening of the rollers of a rolling mill. Results of the calculation are said to agree satisfactorily with experimental data from the plant in question. The greatest deviation of the calculated values of the temperature from those found experimentally was 40°. A figure shows the temperature distribution, calculated and experimental, in a hardened roller 310 mm in diameter after different cooling periods. Orig. art. has: 13 formulas and 2 figures.

SUB CODE: 11,20/ SUBM DATE: 00/ ORIG REF: 003/ SOV REF: 000/ OTH REF: 000

TO

Card 2/2

L 1571-66 EWT(d)/EWT(l)/EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/EWP(k)/EWA(h)/EWP(b)/ETC(m)-6
ACC NR: AT6003103 LJP(c) SOURCE CODE: UR/3181/63/000/015/0315/0323

JD/WW/EM

AUTHOR: Aksenov, G.I.; Morozov, N.P.; Shafeyev, M.N.

ORG: None

TITLE: Numerical method for calculating the temperature field in heat treatment of cylinders, taking into account the evolution of the latent heat of transformation and the dependence of thermophysical properties on temperature

SOURCE: Kuybyshev. Aviatsionnyy institut. Trudy, no. 15, pt. 2, 1963. Doklady kustovoy nauchno-tekhnicheskoy konferentsii po voprosam mekhaniki zhidkosti i gaza (Reports of the Joint scientific-technical conference on problems of the mechanics of liquid and gas), 315-323

TOPIC TAGS: metal heat treatment, heat of reaction, heat conductivity

ABSTRACT: In the symmetrical heating and cooling of a hollow cylinder of infinite length, the determination of the temperature field, taking into account the dependence of the heat conductivity coefficient, λ, and the specific heat capacity, C, on the temperature, t, is based on the solution of the following limiting problem:

Card 1/2

L 15724-66

ACC NR: AT6003103

$$\begin{cases} C(t)\gamma\dfrac{\partial t}{\partial \tau}=\dfrac{1}{r}\dfrac{\partial}{\partial r}\left[r\lambda(t)\dfrac{\partial t}{\partial r}\right];\ 0<R_1\leqslant r\leqslant R_2,\ t_0\leqslant t\leqslant t_n & (1)\\ t(r,0)=f(r);\ 0<R_1<r<R_2, & \\ \left.\dfrac{\partial t}{\partial r}\right|_{r=R_l}+\dfrac{\alpha(t)}{\lambda(t)}\cdot\Delta R_l t=0, & (2)\end{cases}$$

where R_1 and R_2 are, respectively, the inside and outside radii of the hollow cylinder; γ is the specific weight; α is the heat transfer coefficient,

$$\Delta_{R_l} t = t_{R_l} - t_{C_p}^{(R_l)}\ (l=1,2);$$

t_{R_1} and t_{R_2} are the temperatures of the inner and outer surfaces of the cylinder; and, $t_{C_p}^{(R_1)}$ and $t_{C_p}^{(R_2)}$ are the temperatures of the medium surrounding the cylinder on the inside and on the outside. The solution, developed on the basis of the above assumptions, is said to be suitable for heat calculations of processes for the heat treatment of steel cylinders. Orig. art. has: 18 formulas and 2 figures.

SUB CODE:11,20/ SUBM DATE:00/ ORIG REF:003/ SOV REF:000/ OTH REF:001

Card 2/2

AUTHOR: Akseenov, G. I.; Kryukov, V. I.

SUB CODE: MM ENCL: 00

Card 1/1

AKSENOV, G.I.; BOROK, B.A.; MALIN, A.P.; KHROMOV, V.G.

Experience in the industrial rolling of metal powders. Trudy LPI no.222:40-44 '63. (MIRA 16:7)
(Rolling (Metalwork)) (Powder metallurgy)

AKSENOV, G.I., doktor tekhn.nauk, prof.; MOROZOV, N.P., inzh.; SHAFEYEV, M.N., kand. fiziko-matem. nauk

Numerical integration of the equation of heat conductivity of a cylinder with physical characteristics dependent on temperature. Izv. vys. ucheb. zav.; energ. 6 no.5:85-91 My '63. (MIRA 16:7)

1. Kuybyshevskiy aviatsionnyy institut. Predstavlena kafedroy metallovedeniya Kuybyshevskogo aviatsionnogo instituta.
(Heat--Transmission)

L 14305-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3000094 S/0126/63/015/004/0518/0522

AUTHORS: Aksenov, G. I.; Moshchanskiy, V. A.

TITLE: Debye ring structure of a plane-stressed sample

SOURCE: Fizika metallov i metallovedeniye, v. 15, no. 4, 1963, 518-522

TOPIC TAGS: Debye ring structure, plane-stressed sample, linearly stressed sample

ABSTRACT: The present work is a continuation of an earlier investigation by the authors with the difference that in this case the X-ray crystal structures of plane-stressed instead of linearly stressed samples were analyzed. A general formula for the angular displacement magnitude of the Debye line (in radians) has been derived for a plane-stressed sample. The theoretical results have been verified experimentally. A comparison between the Debye line displacements in plane- and linearly stressed samples has been made and the results are tabulated. The authors conclude that the Debye line displacement of linearly stressed samples in the direction of XX and YY axes is such that the Debye ring acquires an elliptical form. The Debye ring of a plane-stressed sample is a circle the radius of which decreases gradually with an increase in stress, providing the principal normal stresses which create a plane-stressed state are equal. The Debye ring has a

Card 1/2

L 14305-63
ACCESSION NR: AP3000094

circular form when the stress exceeds the limit of elasticity and when the stress is removed. Orig. art. has: 5 formulas and 1 table.

ASSOCIATION: Kuyby*shevskiy aviatsionny*y institut (Kuyby*shev Institute of Aviation) Gor'kovskiy politekhnicheskiy institut im. A. A. Zhdanova (Gorkiy ... Polytechnic Institute)

SUBMITTED: 17Jul62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: PH NO REF SOV: 005 OTHER: 000

Card 2/2

AKSENOV, G.I.; DROZDOV, I.A.

Microstructural investigation of copper reduced from scale.
Fiz.met.i metalloved. 15 no.4:597-604 Ap '63. (MIRA 16:6)
(Copper—Metallography)

ACCESSION NR: AR4036256 S/0137/64/000/003/0025/0025

SOURCE: Referativny*y zhurnal. Metallurgiya, Abs. 30163

AUTHOR: Aksenov, G. I.; Minayev, Ye. M.

TITLE: Preparation of powders by atomizing liquid melts

CITED SOURCE: Tr. Kuyby*shevsk. aviats. in-t, vy*p. 16, 1963, 11-21

TOPIC TAGS: Liquid metal atomization, liquid alloy atomization, metal powder preparation, alloy powder preparation

TRANSLATION: Of great importance in the spraying of liquid metals and alloys with compressed air is the design of the atomizer. The authors constructed an adjustable atomizer with a continuous annular conical Laval nozzle and compensation of the injected air. The velocity of the gas stream at the nozzle exit was supersonic (≈ 500 m/sec). The atomization of liquid Cu, Fe, Ni, the alloys EI-437, EI-652, ZhS-6, and 1Kh18N9T steel was investigated. The effect of air pressure and air consumption on the power of the jet at the atomization focus was determined. The

Card 1/2

ACCESSION NR: AR4036256

fineness ratio of the powders was studied as a function of the stream power and consumption of compressed air. As the latter increases, the quantity of fine powder fractions (-0.14-0.04 mm) increases. As the amount of metal supplied increases, the quantity of fine fractions decreases. Powders of oxidation-resistant alloys (EI-652 and ZhS-6) are slightly oxidized during atomization. Such powders can be pressed without preliminary reductive annealing. The shape of the particles of an atomized powder depends on their size. Coarse powders (-0.25+0.14 mm) have the irregular shape of particles with a developed rough surface. Particles of fine powders have a rounded shape with a smoother surface. An exception is the alloy ZhS-6, whose particles have sharp edges (which are attributed to the low surface tension of the alloy). I. Brokhin.

DATE ACQ: 17Apr64 SUB CODE: ML ENCL: 00

Card 2/2

ACCESSION NR: AR4036255 S/0137/64/000/003/0025/0025

SOURCE: Referativnyy zhurnal. Metallurgiya, Abs. 30162

AUTHOR: Aksenov, G. I.

TITLE: Prospects for obtaining metal powders and their mixtures

CITED SOURCE: Sb. Poroshk. metallurgiya i metalloobrabotka. Yerevan, 1963, 12-18

TOPIC TAGS: Metal powder preparation, crystal defect, lattice defect

TRANSLATION: The conditions of formation of crystal lattices of powder metals are studied as a function of the methods by which the powders were prepared, and the role of distortions and defects due to the degree of supercooling is examined. The reactivity of the metal powders during sintering is determined by the stored potential energy, which depends on the imperfection of the lattice, dispersity of the particles, and magnitude of their specific surface. The reactivity of the powders depends mainly on the degree of supercooling. Powders obtained by spraying liquid metals and by the intercrystalline corrosion method have a low reactivity. In con-

Card 1/2

ACCESSION NR: AR4036255

clusion, attention is drawn to the importance of using secondary ferrous metals in the form of shavings, filings, etc. in powder metallurgy. I. Brokhin.

DATE ACQ: 17Apr64 SUB CODE: ML ENCL: 00

Cardd 2/2

S/0137/64/000/001/G037/G037

ACCESSION NR: AR4018316

SOURCE: RZh. Metallurgiya, Abs. 1G256

AUTHOR: Akseno v, G. I.; Pyryalov, L. A.

TITLE: Study of the properties of a porous strip

CITED SOURCE: Tr. Kuybyshevsk. aviats. in-t, vyp. 16, 1963, 71-84

TOPIC TAGS: porous iron powder strip, iron powder strip permeability, iron powder strip porosity

TRANSLATION: A detailed study was made of the dependence of the permeability factor of a porous strip on the type of filtering liquid, porosity, thickness, and filtration pressure. The investigation was carried out on specimens produced by rolling Fe powder of the Sulin plant. Porosity of the specimens was 15-52%. It was found that there is no direct functional dependence between porosity and permeability. The latter is independent of the nature of the filtered liquid while for the same particle size, the permeability depends on the porosity, increasing exponentially with it. As the thickness of the specimen decreases, the permeability coefficient increases and is independent of pressure in the region of laminar

Card 1/2

ACCESSION NR: AR4018310 S/0137/64/000/001/G035/G035

SOURCE: RZh. Metallurgiya, Abs. 1G244

AUTHOR: Aksenov, G. I.

TITLE: On the theory of sintering

CITED SOURCE: Tr. Kuyby*shevsk. aviats. in-t, vy*p. 16, 1963, 125-130

TOPIC TAGS: metal powder sintering, powder sintering theory

ABSTRACT: Processes of sintering of metal powders are discussed. The principal factor determining the nature and degree of crystal lattice defectiveness of the particle material is the degree of supercooling at which the formation of the powder particles occurs. From this standpoint, the lattice of metal powders obtained by the method of intercrystalline corrosion has the least amount of defects, since it forms from a liquid melt when supercooled approximately 10°. Electrolytic powders are characterized by the highest level of lattice distortion, since their formation takes place by supercooling 1000-1500° (for Fe, Ni, Cu). During compacting there occurs plastic deformation of particles and the formation of metallic contacts between them. Sintering is treated as a complex process

Card 1/2

ACCESSION NR: AR4018310

consisting of independent processes: (a) release of excess energy during the heating of specimens; (b) surface migration of atoms; (c) reparation of crystal lattice defects; (d) volume and surface diffusion and self-diffusion; and (e) recrystallization. Three stages of the sintering process are considered at which certain elementary processes play a decisive part. The driving forces of sintering are surface energy, energy of the crystal lattice distortions, energy of residual stresses of the second degree caused by plastic deformation during compacting, and the additional thermal energy of atoms, associated with high temperature sintering. O. Padalko

SUB CODE: MM ENCL: 00

Card 2/2

ACCESSION NR: AR4018313 S/0137/64/000/001/G036/G036

SOURCE: RZh. Metallurgiya, Abs. 1G249

AUTHOR: Aksenov, G. I.; Drozdov, I. A.

TITLE: Study of the sintering of copper compacts by means of high-temperature metallography

CITED SOURCE: Tr. Kuyby*shevsk. aviats. in-t, vy*p. 16, 1963, 149-155

TOPIC TAGS: copper powder sintering, pressed copper powder sintering

TRANSLATION: A study was made of the processes of sintering two Cu powders, a reduced and an atomized powder. The atomized powder was first annealed in H_2 at 300°. Specimens 20 mm in diameter and 0.7 - 1.2 mm high were pressed with polished-surface punches under a pressure of 5 t/cm^2. To make it possible to study specific sections of the specimens, a grid was drawn on them with a diamond indentor. The specimens were placed in the chamber of a type MVY high-temperature microscope. The study was carried out either under vacuum (10^{-4} mm Hg) or in H_2 (1-10 mm Hg). Heating rate was 5-10 deg/min. The surface was photographed every 50-100°. When sintering briquettes from reduced powder at 970-980°, the surface under observation

Card 1/2

ACCESSION NR: AR4018313

became rough, pores became rounded, and the grid lines almost disappeared. When sintering briquettes from the atomized powder, the same changes occurred at 930-980° and were particularly pronounced at 1035-1070°. V. Miroshnikov

SUB CODE: MM ENCL: 00

Card 2/2

S/0137/64/000/001/G037/G037

ACCESSION NR: AR4018317

SOURCE: RZh. Metallurgiya, Abs. 1G257

AUTHOR: Aksenov, G. I.; Kryukov, V. I.

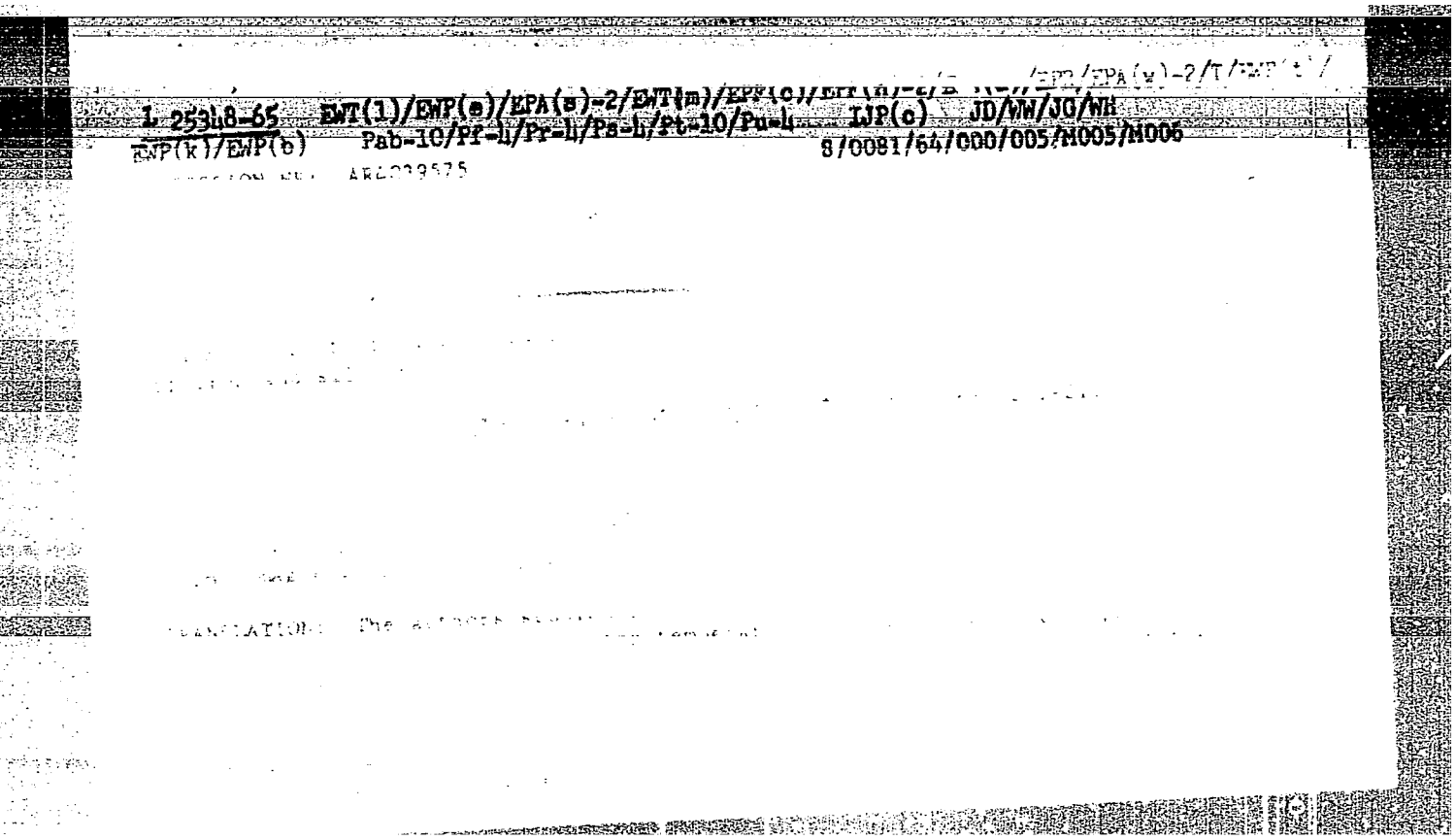
TITLE: Study of certain properties of the iron--copper system

CITED SOURCE: Tr. Kuyby*shevsk. aviats. in-t, vy*p. 16, 1963, 165-171

TOPIC TAGS: iron copper alloy, iron copper alloy sintering

TRANSLATION: A study was made of Fe-Cu alloys containing 1 to 20% Cu. As the Cu content increases to 8%, shrinkage of the specimens decreases during sintering. Maximum growth (~1%) occurs at 8% Cu while at 5-6% Cu growth offsets shrinkage and the change in size is minimal (±0.1%). After sintering at 1150° for 2 hr, σ_b is 38 kg/mm^2 in specimens with 5-6% Cu, drops to 28 kg/mm^2 at 8% Cu, and rises to 42-45 kg/mm^2 when the Cu content increases to 15-20%. As the Cu content increases to 5-6%, σ_b rises as a result of alloying the Cu base by Fe. The drop in strength at 8% Cu (i.e., at the maximum solubility of Cu in γ-Fe) is explained by manifestation of diffusion porosity; as the Cu content rises from 8 to 20%, σ_b increases because of the appearance of liquid Cu and the ε phase at the sintering temperature.

Card 1/2



L 25348-65 EWT(l)/EWP(e)/EPA(e)-2/EWT(m)/EPF(c)/EPR/T/EWP(t)/ETI/EPA(w)-2/T/EWP(k)/EWP(b) Pab-10/Pf-4/Pr-4/Ps-4/Pt-10/Pu-4 IJP(c) JD/WW/JG/WH
ACCESSION NR: AR5009575 S/0081/64/000/005/M005/M006

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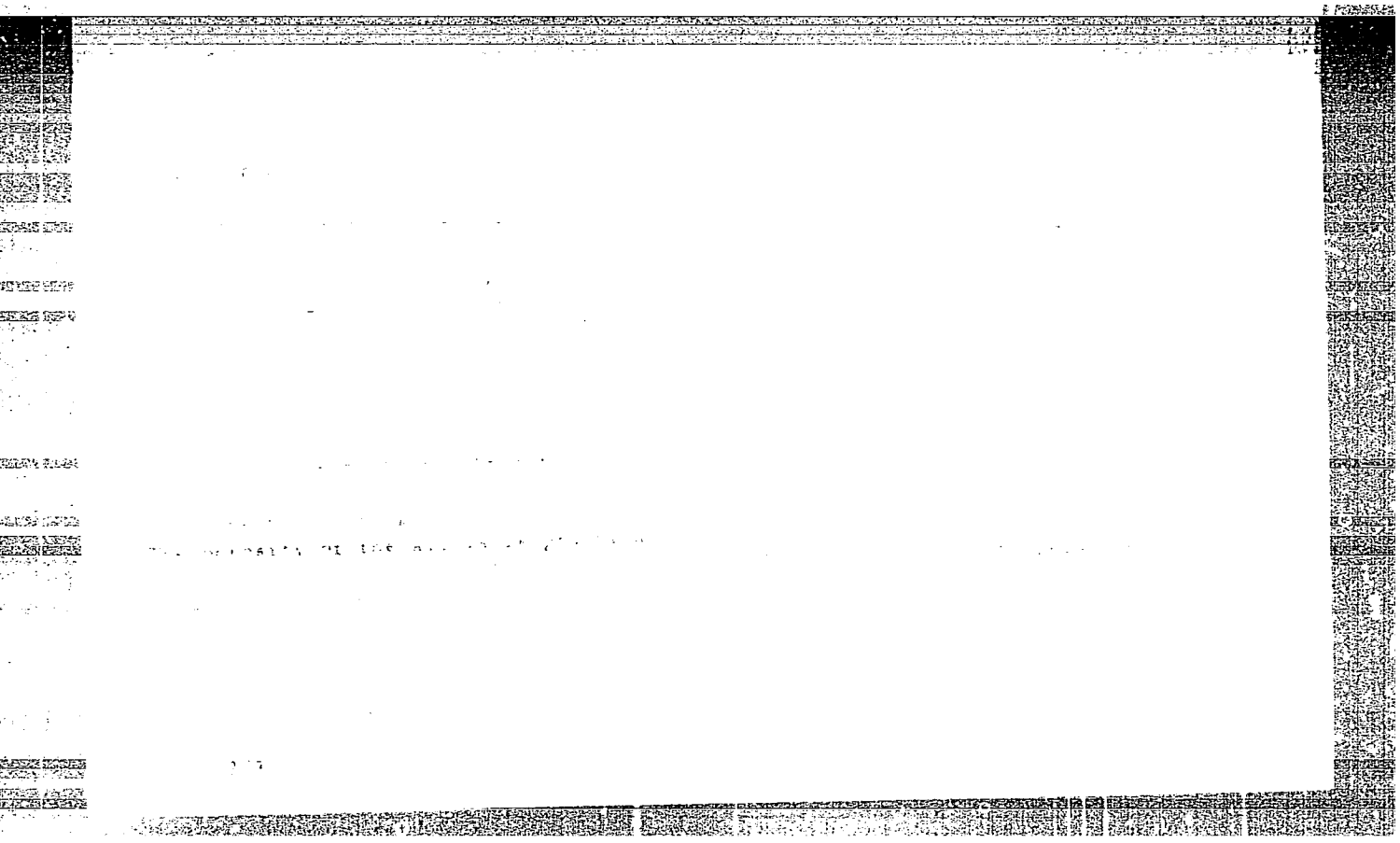

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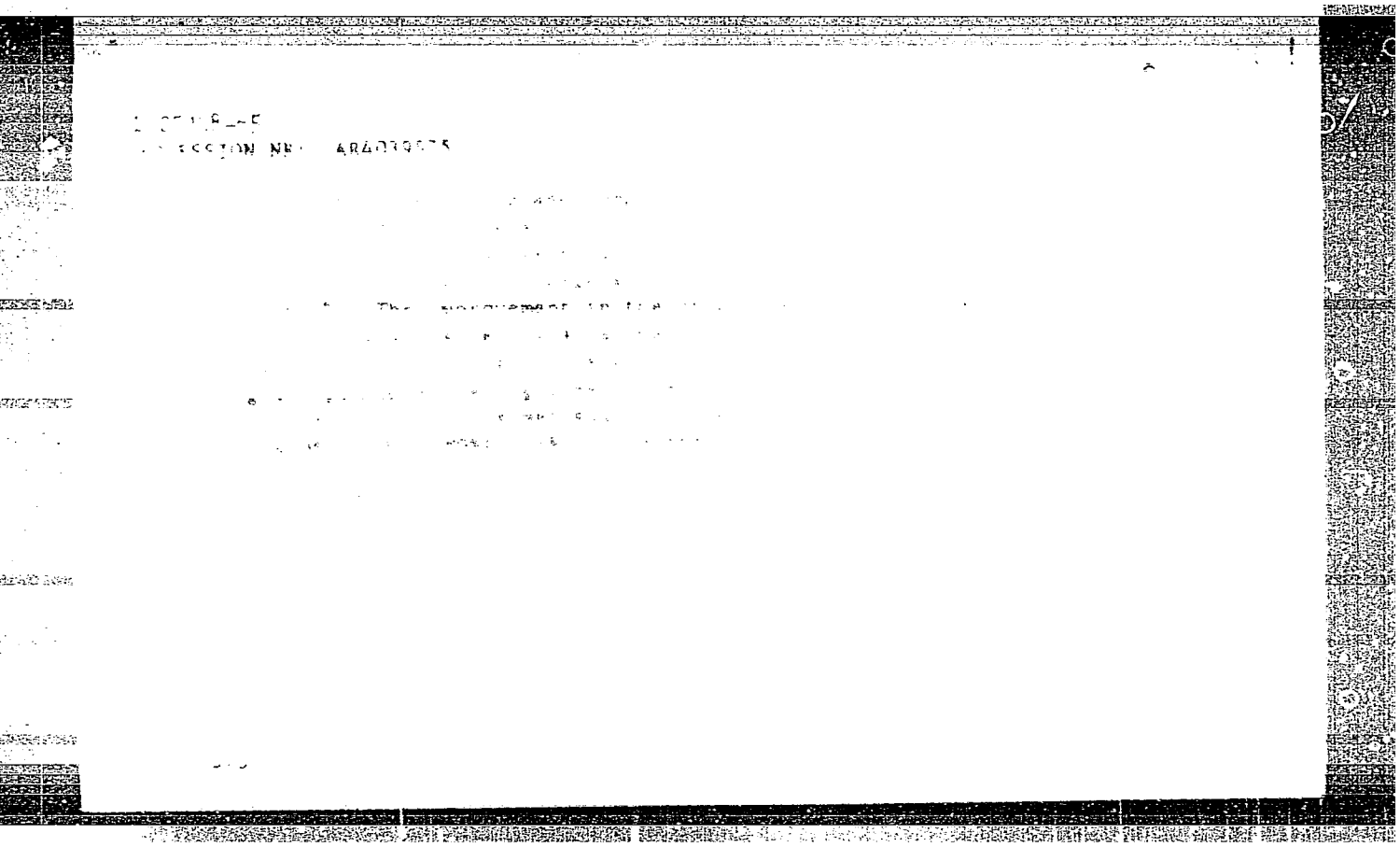


Author: Arsenov, S. I.; Litvinenko, P. P.

Card 1/2

WRITE BELOW THIS LINE

ACCESSION NR: AP4039602 S/0126/64/017/005/0737/0743

AUTHORS: Aksenov, G. I.; Morozov, N. P.; Chayka, V. A.

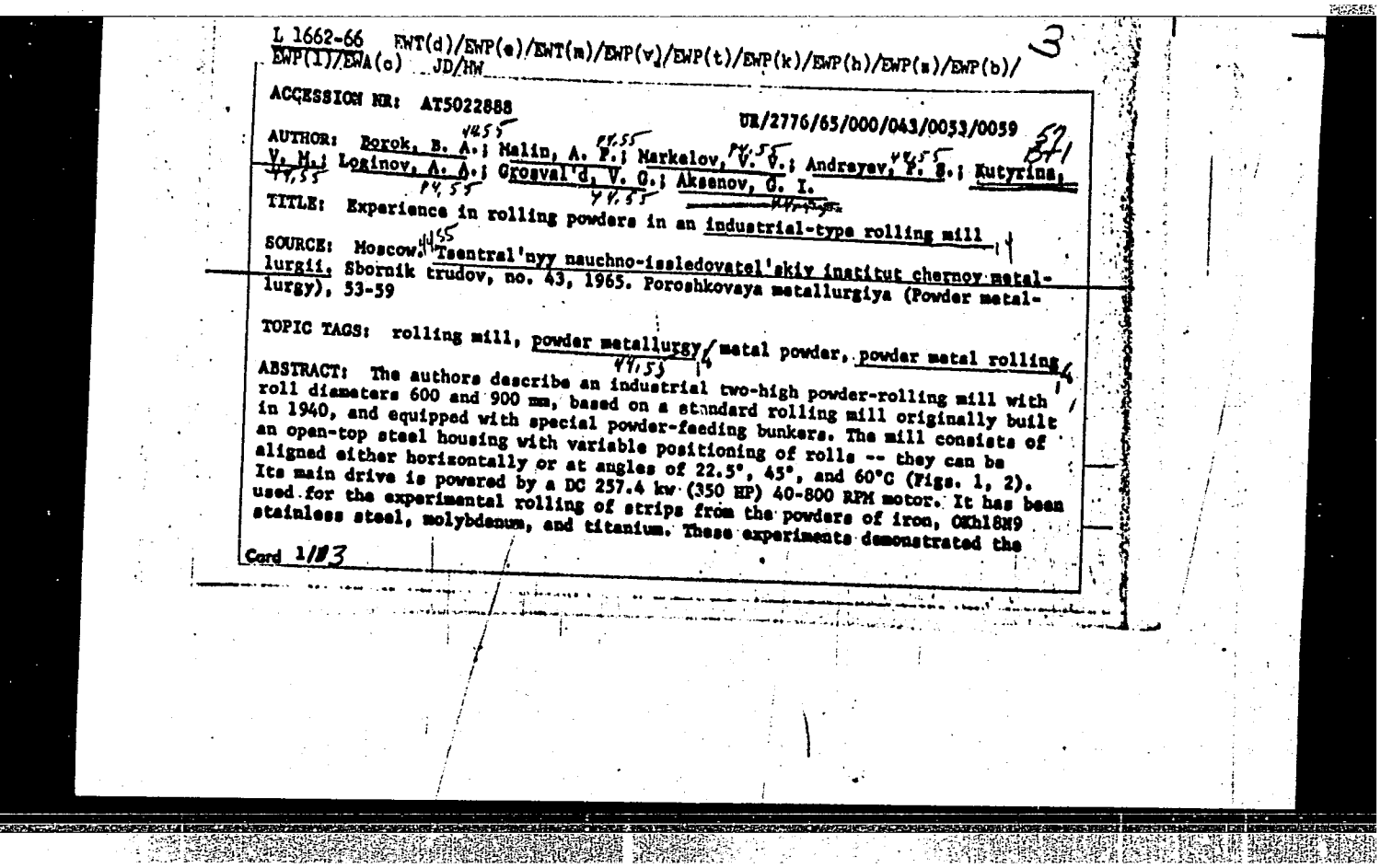
TITLE: Investigations of the terminal structural deformations and residual austenite quantity in quenched rolled steel

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 5, 1964, 737-743

TOPIC TAGS: rolled steel, martensite, structural deformation, residual austenite, annealing, quenching medium, steel 9Kh

ABSTRACT: The effect of heating and cooling (in the martensite temperature range) on the magnitude of relative structural deformation and on the quantity of residual austenite in quenched rolled 9Kh steels was studied. The specimens were 30 mm long, 4 mm in diameter, and contained 0.88% C and 1.52% Cr. Four sets of experiments were performed. In all of them the initial temperature of the specimen was 850-900C, but cooling was carried out at different rates by using an oil bath at various temperatures. Theoretical predictions for relative quenching deformations gave values 3 to 6 times higher than those measured experimentally (ε_{max} = 9 to 10 x 10^{-4}). Analysis indicates that this discrepancy is caused primarily by the

Card 1/2



L 1662-66 EWT(d)/EWP(e)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(m)/EWP(b)/EWP(l)/EWA(c) JD/HW

ACCESSION NR: AT5022888 UR/2776/65/000/043/0053/0059

AUTHOR: Borok, B. A.; Malin, A. F.; Markelov, V. V.; Andreyev, V. S.; Kutyrina, V. M.; Loginov, A. A.; Grosval'd, V. G.; Aksenov, G. I.

TITLE: Experience in rolling powders in an industrial-type rolling mill

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metallurgy), 53-59

TOPIC TAGS: rolling mill, powder metallurgy, metal powder, powder metal rolling

ABSTRACT: The authors describe an industrial two-high powder-rolling mill with roll diameters 600 and 900 mm, based on a standard rolling mill originally built in 1940, and equipped with special powder-feeding bunkers. The mill consists of an open-top steel housing with variable positioning of rolls -- they can be aligned either horizontally or at angles of 22.5°, 45°, and 60°C (Figs. 1, 2). Its main drive is powered by a DC 257.4 kw (350 HP) 40-800 RPM motor. It has been used for the experimental rolling of strips from the powders of iron, OKh18N9 stainless steel, molybdenum, and titanium. These experiments demonstrated the

Card 1/3

L 1662-66

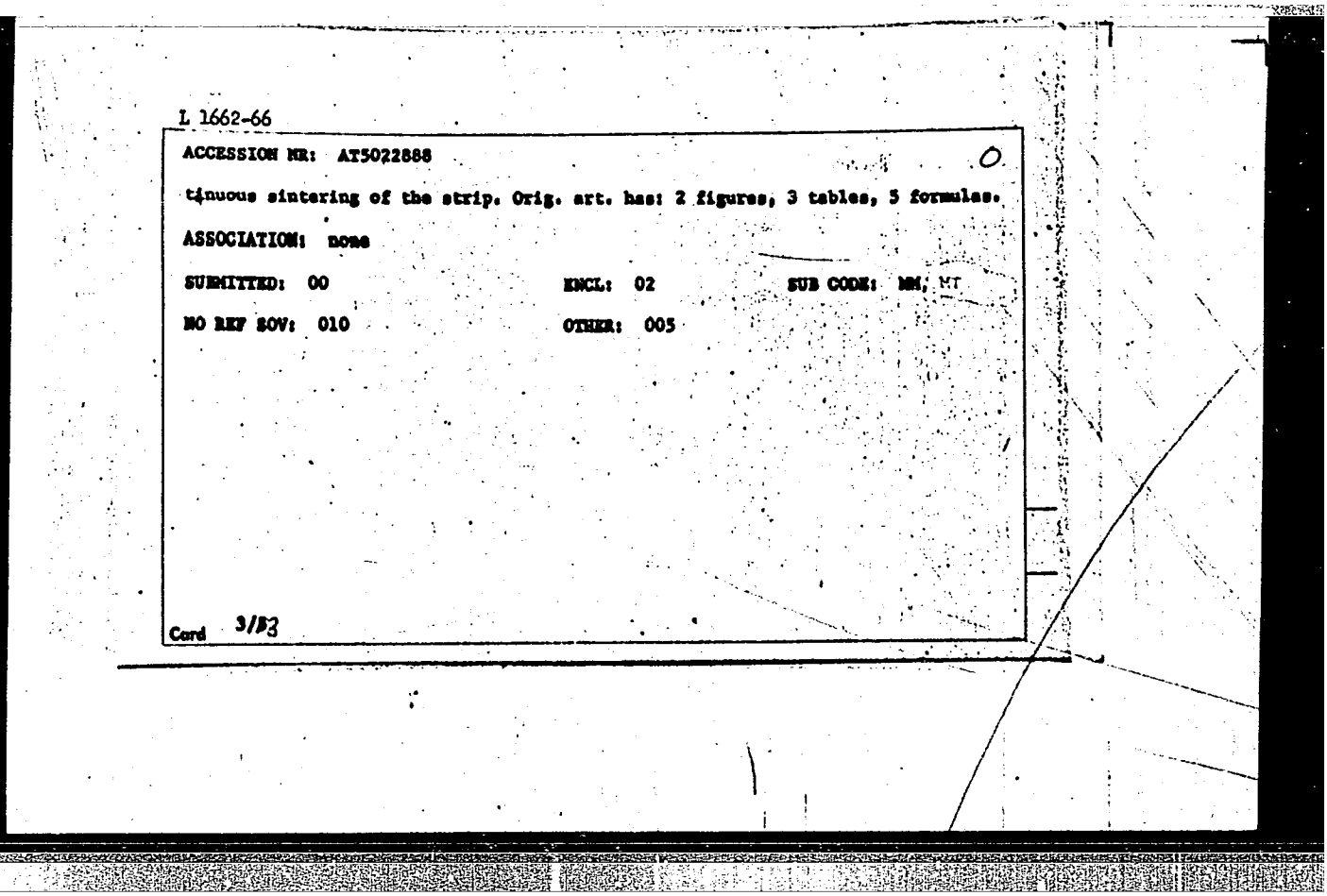
ACCESSION NR: AT5022888

mill's suitability for organizing the industrial production of poreless strips from the powders of different metals and alloys. Such strips, 0.8-1.0 mm thick, display physical properties that are not inferior to those of strips produced by rolling ingot metal. This strip thickness is in complete agreement with the basic equation of rolling, which implies that strip thickness is a function of roll diameter:

$$\gamma_s = \frac{\gamma_p}{\tau}\left[1 + \frac{D}{\delta} + \frac{\alpha^2}{2}\right], \qquad (1)$$

where γ_p and γ_s are the densities of powder (bulk weight) and strip, respectively, g/cm^3, D is the roll diameter, δ is the thickness of rolled strip, mm; α is the angle of reach, deg; and τ is the coefficient of reduction of the powder during rolling. Hence this basic equation applies not only for laboratory rolling mills but also for industrial rolling mills and can be used in designing the latter. Before the rolling of metal powders can be industriallyintroduced, however, these three problems must be solved: lateral restriction of the zone of deformation of powder in the rolls; continuous, uniform supply of powder to the feeder; and con-

Card 2/3



L 1662-66

ACCESSION NR: AT5022888 O

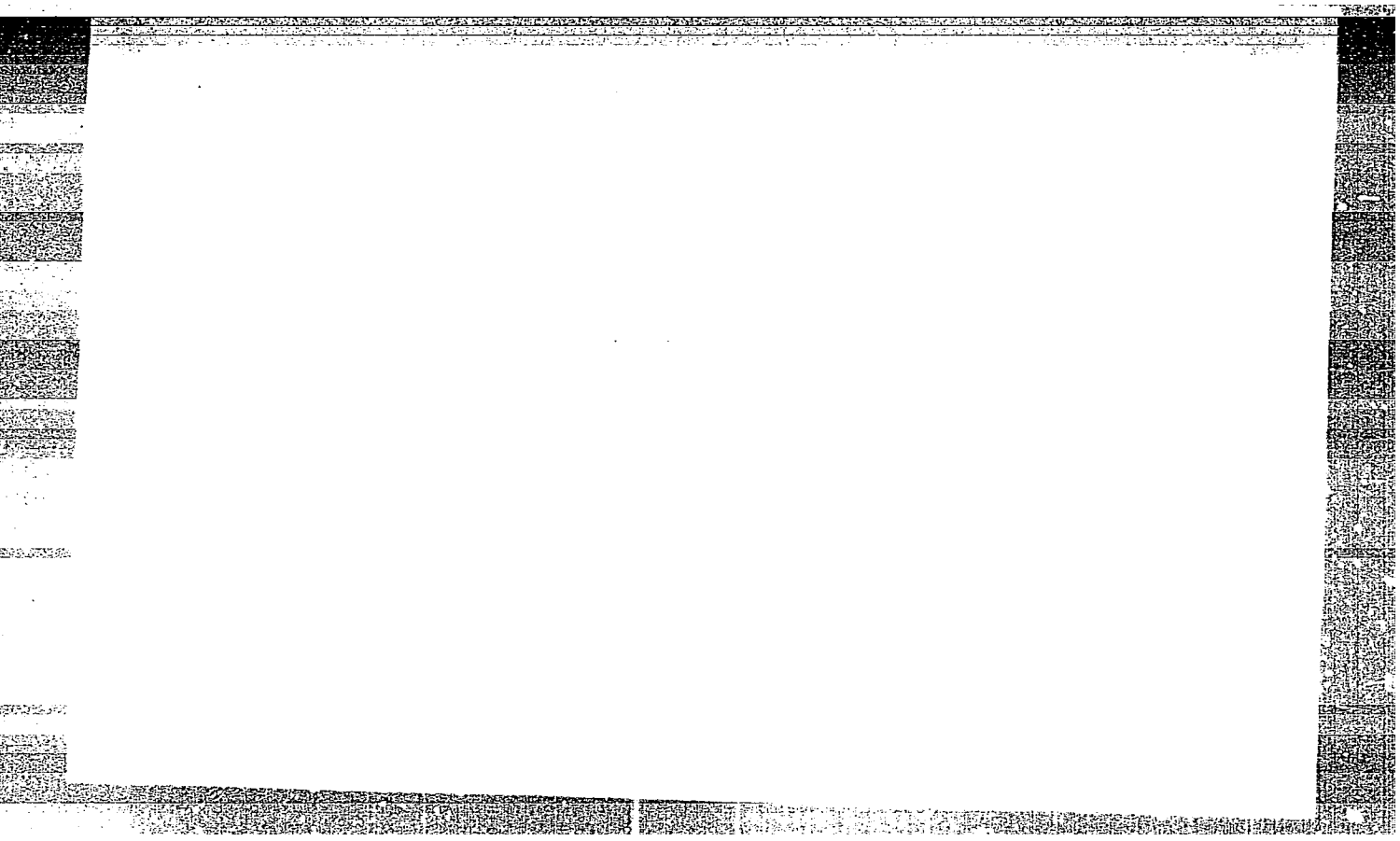
tinuous sintering of the strip. Orig. art. has: 2 figures, 3 tables, 5 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 02 SUB CODE: MM, MT

NO REF SOV: 010 OTHER: 005

Card 3/3



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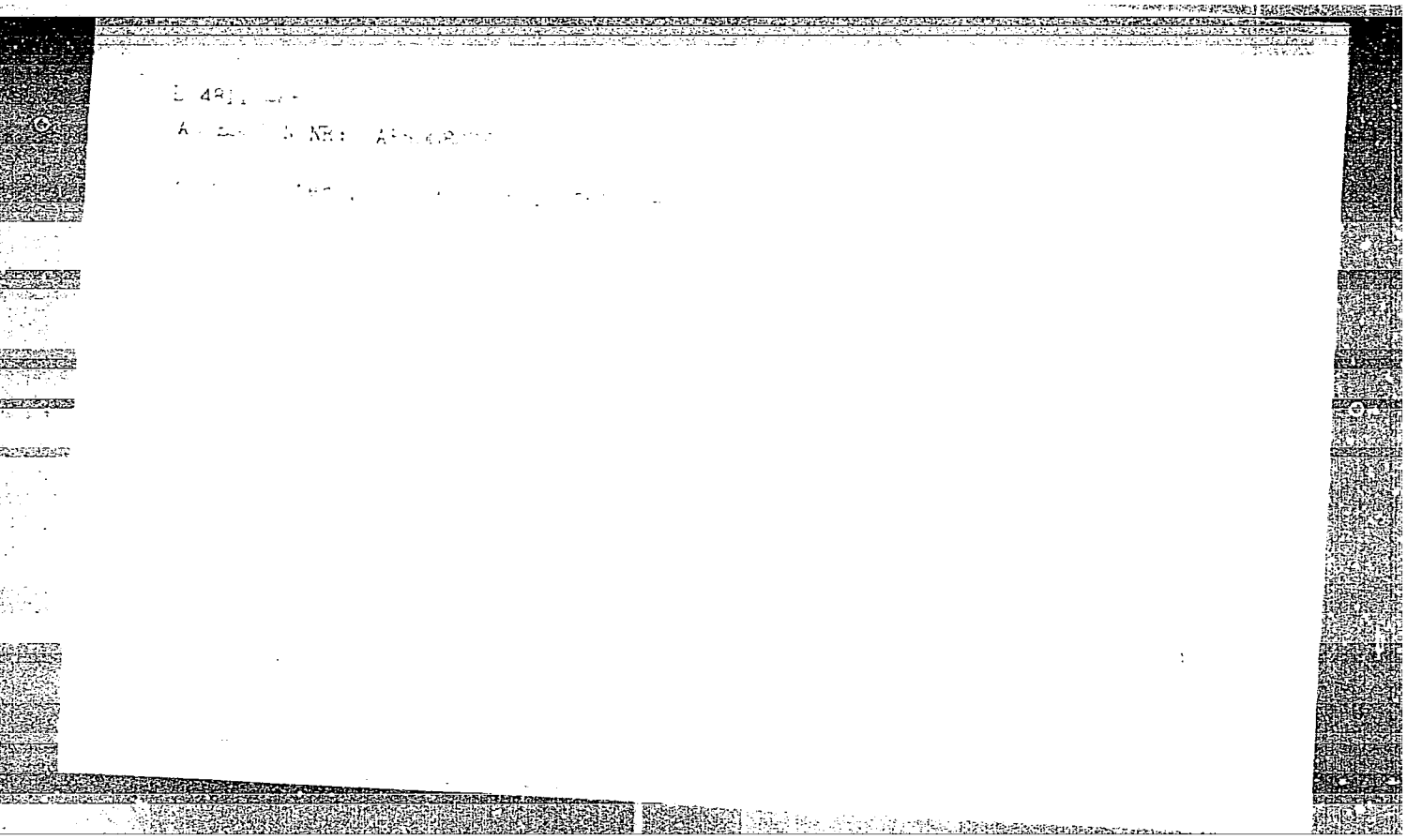
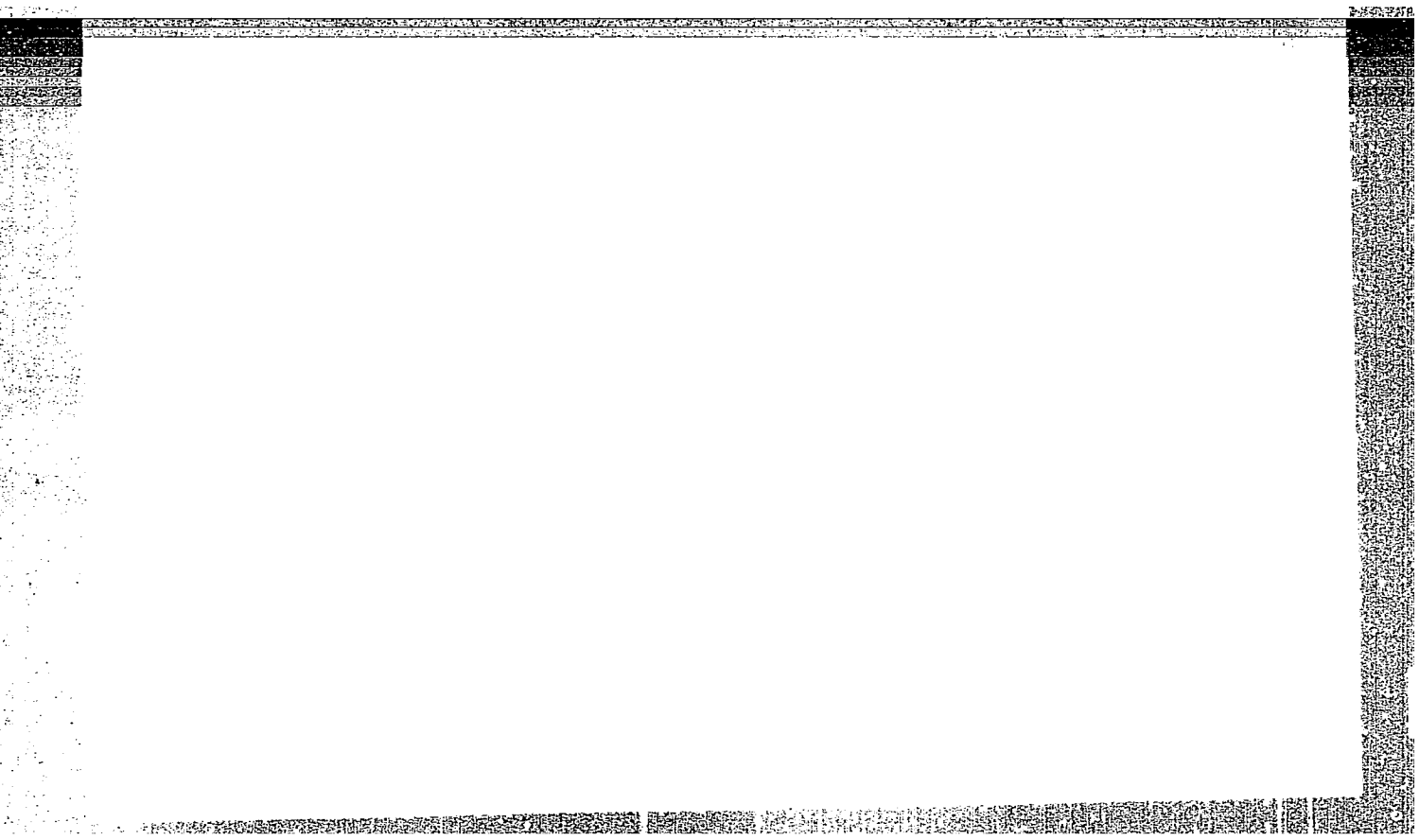


ACCESSION NR: AP5008278 ENCLOSURE: 01



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L 8561-66 EWT(1)/EWT(m)/EWP(k)/EWP(z)/EWA(c)/EWP(b)/T/EWP(e)/EWP(t) IJP(c) JD

ACCESSION NR: AP5021188 UR/0139/65/000/004/0182/0183

AUTHOR: Aksenov, G. I.; Litvinenko, P. P.

TITLE: The effect of defects in the crystal structure on the pressing and sintering of copper powder samples

SOURCE: IVUZ. Fizika, no. 4, 1965, 182-183

TOPIC TAGS: copper, powder metal compaction, powder metal sintering, crystal structure, crystal defect, pressure effect, physical diffusion

ABSTRACT: Powdered copper oxide reduced at 250 and 550C with particle sizes of 58--75 μ was used to prepare the samples. Five grams of powder were used to press an annular sample with diameters of 20 x 13 mm and a height which depended on the applied pressure. The sintering was carried out in an atmosphere of dry, dissociated ammonia at 800, 900, and 1000C for various durations. The electrical resistivity of the samples was measured by a contactless method. The compressibility of the powder obtained at the lower reduction temperature was smaller than that of the powder obtained at the higher reduction temperature, in agreement with the defect density. It was found that the powder reduced at 250C had not only a high density of defects, but also a higher critical stress compared with the powder reduced at

Card 1/2

L 8561-66

ACCESSION NR: AP5021188

550C. The x-ray data indicated that at the chosen sintering temperatures micro-stresses of the second kind are relaxed and the mosaic blocks grow to dimensions which do not affect the physical width of the diffraction lines. The blocks grow as a function of the isothermal heating according to the parabolic law. The production of the blocks takes place therefore by diffusion. It is concluded that the dimensions of the blocks and the coefficients of self-diffusion are larger in the powder reduced at 250C. Orig. art. has: 2 figures, 2 formulas, and 1 table.

ASSOCIATION: Kuybyshevskiy aviatsionnyy institut (Kuybyshev Institute of Aviation)

SUBMITTED: 27Jan65

NR REF SOV: 014 ENCL: 00 SUB CODE: SS, MM

OTHER: 000

4455

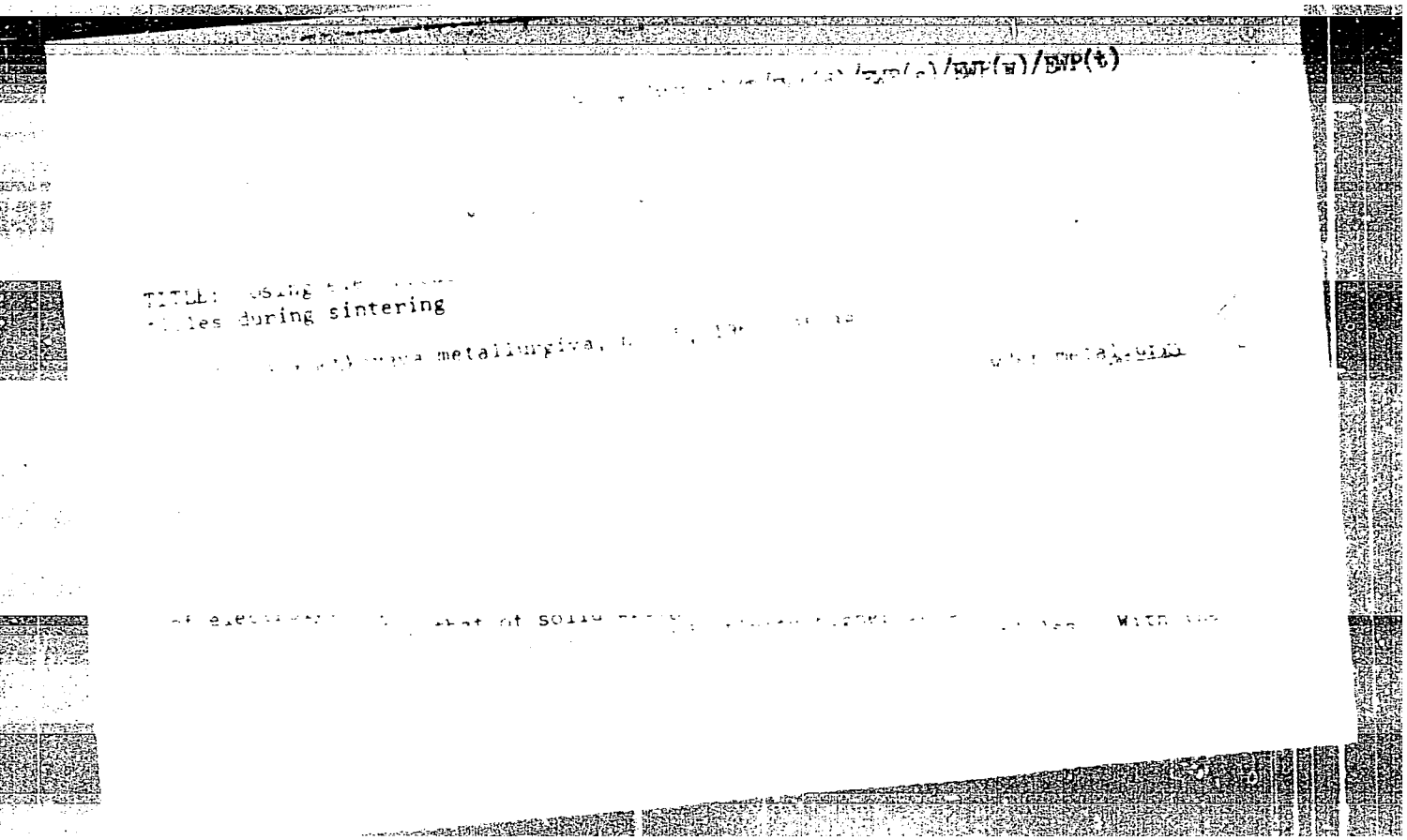
jw

Card 2/2

AKSENOV, G.I.; LITVINENKO, P.P.

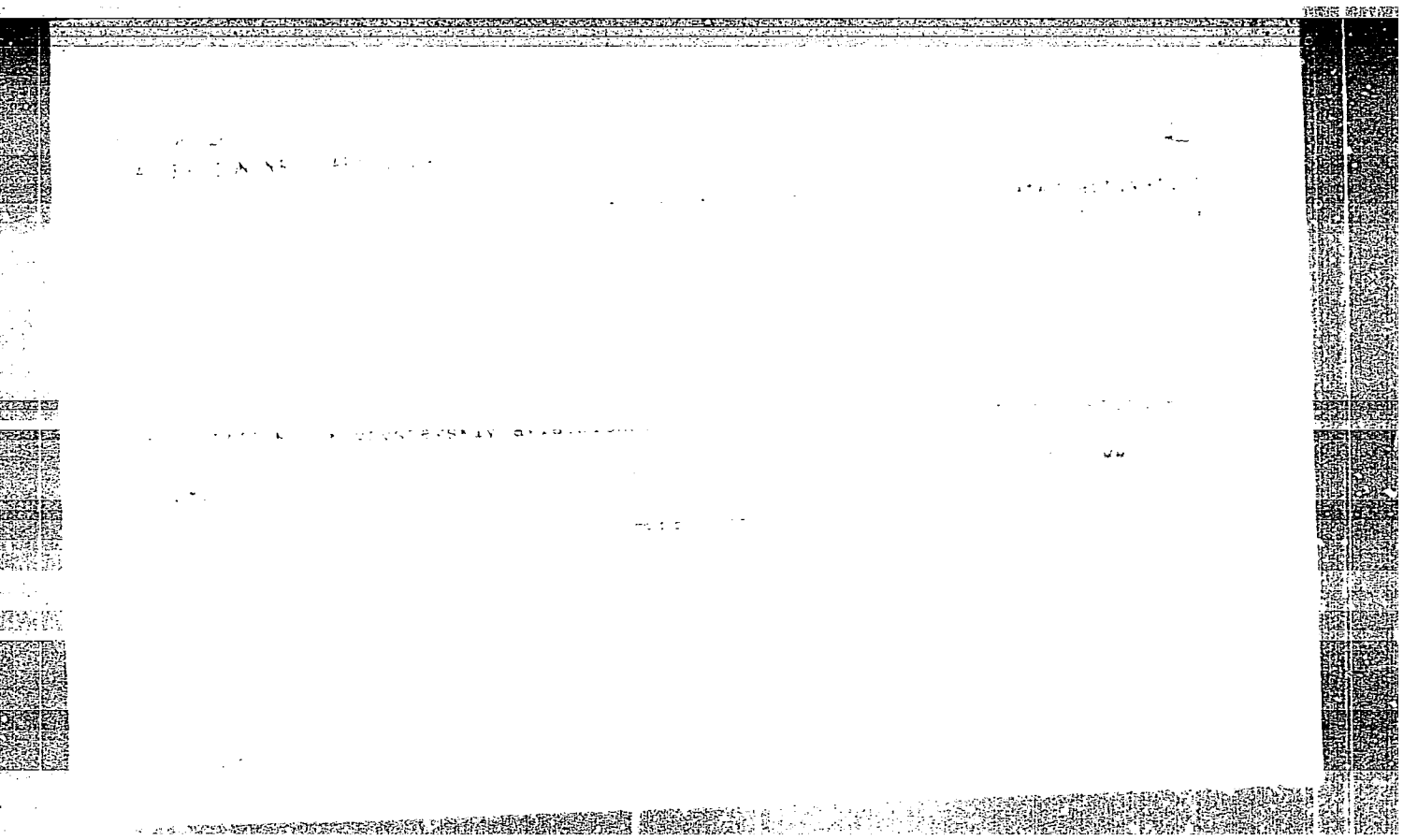
Studying the fine structure of a reduced copper powder in pressed parts. Porosh.met. 5 no.12:1-7 D '65. (MIRA 19:1)

1. Kuybyshevskiy aviatsionnyy institut. Submitted February 1, 1965.



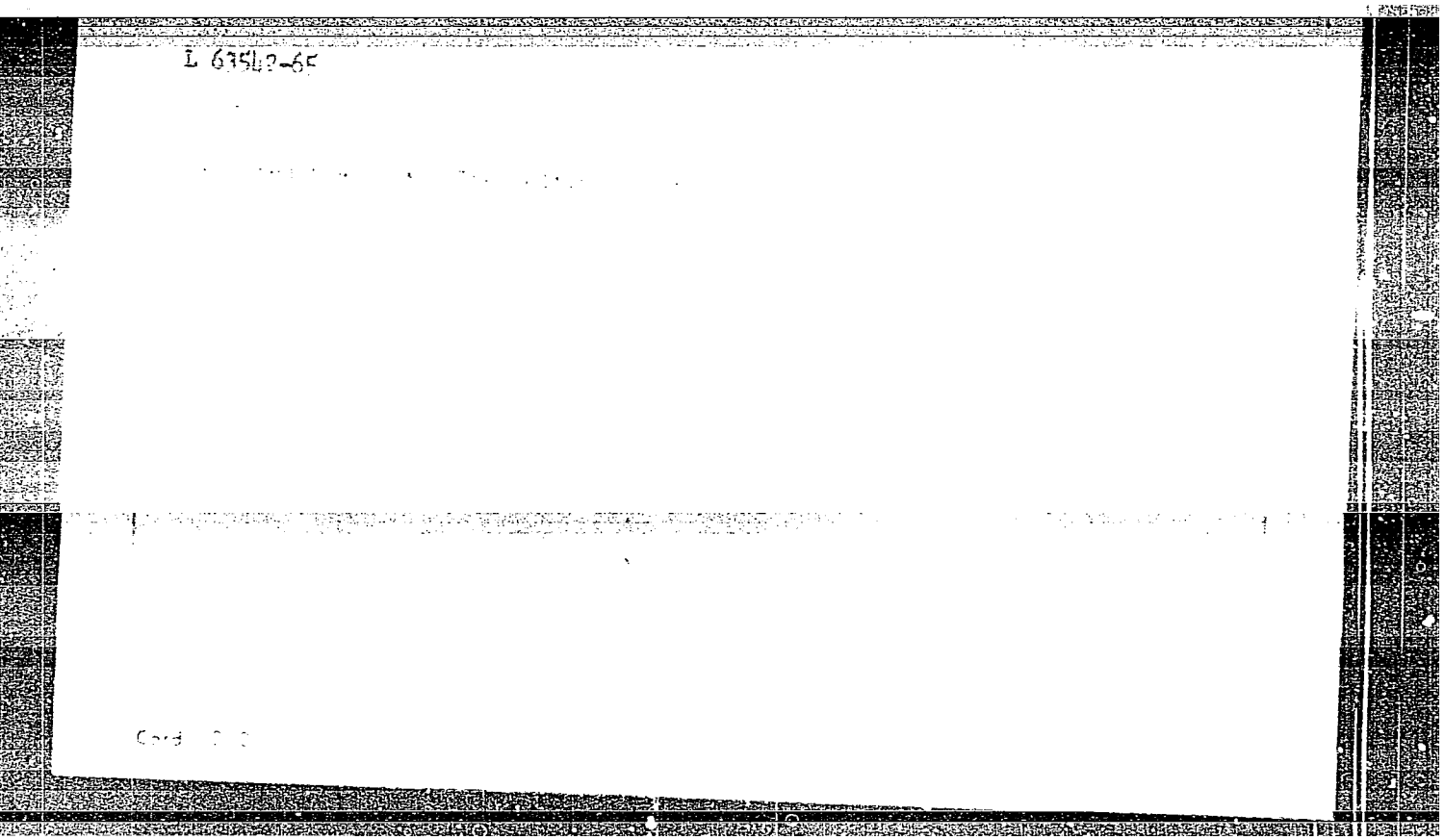
TITLE:
les during sintering

metallurgiya,



TOPIC TAGS: bronze, [illegible]
examination, sintering behavior

[illegible] were studied.



BOROK, B.A.; MALIN, A.P.; MARKELOV, V.V.; ANDREYEV, P.S.; KUTYRINA, V.M.; LOGINOV, A.A.; GROSVAL'D, V.G.; AKSENOV, G.I.; KHROMOV, V.G.; TIKHONOV, G.F.

Experimental powder rolling on an industrial-type mill. Sbor. trud. TSNIICHM no.43:53-59 '65. (MIRA 18:10)

L 07805-67 EWT(1)/EWP(e)/EWT(m)/EWP(t)/ETI/EWT(k) [illegible]

ACC NR: AR6017486 SOURCE CODE: UR/0137/66/000/001/G039/G039

AUTHOR: Aksenov, G. I.; Litvinenko, P. P.

TITLE: Effect of oxide reduction conditions on the fine intergranular structure of reduced copper powder 34

SOURCE: Ref. zh. Metallurgiya, Abs. 1G301 B

REF SOURCE: Tr. Kuybyshevsk. aviats. in-t, vyp. 20, ch. 1, 1965, 179-186

TOPIC TAGS: metal powder, copper, grain structure

ABSTRACT: The change in the fine structure of reduced copper powder was studied as a function of reduction temperature. The research was done on an x-ray ionization installation with automatic recording of the intensity distribution curve using copper K_α - radiation. The width of interference lines (111) and (222) was measured. An approximation method was used for determining the true width of the interference lines. A graphic method was used for isolating the contributions to line width made by block dimensions and microdistortions. As the reduction temperature is raised, there is an increase in the dimensions of the mosaic blocks and a reduction in microdistortions. The resultant data on block dimensions and microdistortions are used as a basis for calculating the dislocation density and angle of disorientation between adjacent mosaic blocks. The reduction in microdistortions is explained by a reduction in the potential energy of the system while the increase in the size of mosaic blocks is due to recrystallization. Bibliography of 11 titles. V. Yudin. [Translation of abstract]

SUB CODE: 20 11, 13

Card 1/1 mc UDC: 621.762.2.001:669.3

SOV/112-59-2-3476

9(6)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 2, pp 177-178 (USSR)

AUTHOR: Tarasov, V. S., Aksenov, B. Ye., and Butomo, I. D.

TITLE: Use of Electronic Computers for Solving Various Problems of Engineering Physics (Primeneniye elektronnykh matematicheskikh mashin dlya resheniya zadach iz razlichnykh oblastey tekhnicheskoy fiziki)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 194, pp 223-240

ABSTRACT: Four examples of problems are cited that were solved by an analog computer (developed in 1953-1954) in the Leningrad Polytechnic Institute: 1. Investigation of the behavior of a gyrotachometer subjected to sinusoidal and dry-friction torques. 2. Investigation of an electromechanical nonlinear followup system that has two degrees of freedom. 3. The problem of a laminar boundary layer which can be reduced to solving of a nonlinear differential equation of the third order with specified boundary conditions.

Card 1/2

SOV/112-59-2-3476

Use of Electronic Computers for Solving Various Problems of Engineering Physics

4. Investigation of an explosion of a dustlike mixture in an enclosed space.

For each of the above problems, complete schemes of solution are presented, methods for selecting scale factors are described, and graphical solutions are given. Eighteen illustrations. Bibliography: 1 item.

Ye.G.S.

Card 2/2

GUBIN, V.V.; MAKAROV, Yu.N.; AKSENOV, B.Ye.

Mine testing of coal extraction by means of chain saws. Ugol' 35 no.11:27-30 N '60. (MIRA 13:12)

1. Pechorskiy nauchno-issledovatel'skiy ugol'nyy institut (for Gubin, Makarov). 2. Glavnyy inzhener shakhty No.1-2 "Khal'mer-Yu" (for Aksenov).
(Coal mines and mining) (Coal mining machinery)

ISTOSHIN, Yu.V.; ZAKLINSKIY, A.B.; AKSENOV, D.A.

Seasonal temperature and salinity changes in waters of the North Atlantic. Trudy MGI 19:75-92 '60. (MIRA 14:7)
(Atlantic Ocean—Ocean temperature) (Atlantic Ocean—Salinity)

AKSENOV, D.D.

USSR/Physics - Television FD-1070

Card 1/1 : Pub. 153 - 6/24

Author : Aksenov, D. D.

Title : Operation of television transmission tubes with charge accumulation

Periodical : Zhur. tekh. fiz., 24, No 10, 1788-1797, Oct 1954

Abstract : The author reviews the available information on the mechanism governing the operation of iconoscope-type transmission tubes with charge storage and development by fast electrons with successive scanning. He describes the processes in a tube with scanning from four sides.

Institution : -

Submitted : January 31, 1953

BULOVSKIY, P.I.; MES'KIN, V.S., otvetstvennyy redaktor; AKSENOV, D.D., red.; BLINOV, V.I., red.; VORONOVSKAYA, Ye.V., red.; GOLOVCHANSKIY, P.M., red.; ZAVALISHIN, D.A., red.; EPSHTEYN, M.O., red.; BORKHVARDT, G.K., red.; PAVLOV, V.A., red.; POVALYAYEV, A.V., red.; SIVERS, A.P., red.; FILIPPOV, P.I., red.; MISHIN, V.I., red.; KL'KIN, Ye.G., tekhn.red.

[Theoretical bases for the technology of assembling aeronautical instruments] Teoreticheskie osnovy tekhnologii sborki aviatsionnykh priborov. Leningrad, 1956. 122 p. (Leningrad. Institut aviatsionnogo priborostroeniia. Trudy no.15) (MIRA 10:11)

(Aeronautical instruments)

KASPIN, L.A., kand.ekonom.nauk; PAL'M, I.S., starshiy nauchnyy sotrudnik; KHORIKOV, A.N., starshiy nauchnyy sotrudnik; SHEVCHUK, Yu.I., starshiy nauchnyy sotrudnik; AKSENOV, D.G., inzh.; EL'GORT, Ye.G. Prinimali uchastiye: KARAKURCHI, M.I., kand.tekhn.nauk; KUCHERENKO, K.R., kand.tekhn.nauk; PEDAN, M.P., nauch.sotr.; POPOV, V.Ye., nauchn.sotr.; GINZBURG, S.M., inzh.; SLIN'KO, B., red.; ZELENKOVA, Ye., tekhn.red.

[Economic aspects of the construction of four- and five-story apartment buildings of large blocks of brick] Ekonomika vozvedeniia 4-5 etazhnykh zhilykh zdanii iz krupnykh kirpichnykh blokov. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit. USSR, 1960. 112 p. (MIRA 14:4)

1. Akademiya stroitel'stva i arkhitektury USSR. Institut organizatsii i mekhanizatsii stroitel'nogo proizvodstva. 2. Sektor ekonomiki stroitel'nogo proizvodstva Nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii stroitel'nogo proizvodstva Akademii stroitel'stva i arkhitektury USSR (for Kaspin, Pal'm, Khorikov, Shevchuk, Aksenov, El'gort). 3. Nauchno-issledovatel'skiy institut konstruktsiy (for Karakurchi, Kucherenko). 4. Glavkiyevstroy (for Ginzburg). 5. Nauchno-issledovatel'skiy institut stroitel'nykh materialov (for Pedan, Popov).

(Building, Brick)

3(4)

AUTHORS: Mazov, M. V., Aksenov, D. S., Cherkasov, I. A., Sharikov, Yu. D. SOV/154-59-2-12/22

TITLE: Device for Taking Synchronized Stereo-photographs From Two Airplanes (Apparatura dlya sinkhronnoy stereofotos"yemki s dvukh samoletov)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 2, pp 77-86 (USSR)

ABSTRACT: In 1956, devices for taking synchronized aerial photographs were developed at the Laboratoriya aerometodov AN SSSR (Laboratory for Aerial Methods of the AS USSR). The fundamental condition is a high degree of synchronization. This synchronization can only be achieved with the help of a radio device, which the authors call a radio synchronizer. The essence of the functioning of the device lies in the fact that the impulses for the operation of the shutters of both aerial cameras are given at such an interval, that both shutters open at the same time, because even with aerial cameras of the same type the response time varies. The first model of a radio synchronizer was produced in 1956. A second model followed in 1957. Both designs are described here. Both had various deficiencies which were rectified

Card 1/2

Device for Taking Synchronized Stereo-photographs From Two Airplanes

with the third model. The device consists of a transmitting and a receiving set, installed in two airplanes. The principal wiring diagram is shown in figure 7 and the block wiring diagram in figure 6. The functioning of the radio synchronizer is described in detail. The dimensions of the transmitter are 250 × 300 × 150 mm and those of the receiver 300 × 500 × 250 mm. The weight of each device including the converter is 12 kg. A test proved that a reliable synchronization of 1/200 seconds is secured and that the receiving device is not subject to any interference at all. The device permits the control and adjustment of the synchronization whilst taking stereo-photographs. There are 10 figures.

ASSOCIATION: Laboratoriya aerometodov AN SSSR (Laboratory for Aerial Methods of the AS USSR)

AKSENOV, D.Ye., dotsent, kand.pedagogicheskikh nauk

Training of engineering and pedagogical personnel for technical schools. Uch.zap.Kol.ped.inst. Politekh.ser. 4 no.1:3-8 '59. (MIRA 14:4)

(Teachers, Training of) (Technical education)

AKSENOV, E. M.,: E. M. BERMANT, and others

Metallorezhushchie stanki. Spetsial'nyi kurs. Uchebn. posobie dlia mastera. Moskva, Mashgiz, 1941. 340 p.

Metal-cutting machines. A special course. Foreman's manual.

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

AKSENOV, F. (g.Ulan-Ude)

Stereoscopic photography with and ordinary camera. Tekh. mol.24 no.4:38-39 Ap '56. (MLRA 9:7)
(Photography, Stereoscopic)

F.I. AKSENOV

AUTHOR: Gulyayev, B.B. SOV/24-58-4-37/39

TITLE: Conference on Crystallisation of Metals (Soveshchaniye po kristallizatsii metallov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 153 - 155 (USSR)

ABSTRACT: This conference was held at the Institut mashinovedeniya AN SSSR (Institute of Mechanical Engineering of the Ac.Sc. USSR) on June 28-31, 1958. About 400 people participated and the participants included specialists in the fields of foundry, metallurgy, crystallography, physics, welding, heat, physical chemistry, mathematical physics and other related subjects. In addition to Soviet participants, foreign visitors included Professor D. Czikl (East Germany) and N.I. Chvorinov (Czechoslovakia). This conference on crystallisation of metals was the fourth conference relating to the general problem of the theory of foundry processes.

Crystallisation of Steel and Alloys with Special Properties. The following papers were read: V.I. Lapitskiy, N.I. Stunar', K.P. Rudachev, V.L. Olekseyenko, A.I. Marinov - "Certain Methods of Reducing Non-uniformities of Large Castings (up to 20 t) made of Rimming Steel"; V.K. Novitskiy, A.D. Mikul'chin and V.V. Blinov - "Influence of Internal Crystallisers on the Structure and Properties of Steel Ingots"; N.I. Chvorinov (Czechoslovakia) - "On the Crystallisation of Steel"; A.P. Pronov - "Crystallisation of Continuously Cast Ingot and Influence on it of the Properties of

Card6/10 Liquid Steel"; L.I. Morozenskiy and O.D. Zigel' - "Influence of Movement of the Metal in the Liquid Core on the Crystallisation of Steel Ingots and Castings"; N.M. Guglin, A.A. Novikova and B.B. Gulyayev - "Crystallisation and Mechanical Properties of Steels at Elevated Temperatures"; V.Ye. Neymark - "Influence of Inoculation on the Deformation of the Crust and the Speed of Solidification of Ingots"; G.P. Ivantsov "Thermal Stresses and Deformation in the Crust of a Crystallising Ingot"; V.G. Gruzin and P.I. Yamshanov dealt with problems of formation of the primary structure of structural steel and the influence on it of the temperature of pouring.
The features of crystallisation of castings made of alloys with special properties and of austenitic steels were dealt with in the following papers:
I.I. Goryunov - "Influence of Inoculation on the Structure and on the Physico-mechanical Properties of High-alloy Steels"; F.F. Khimushin, F.I. Aksenov, N.F. Lashko and N.Ya. Rodina - "Occurrence of Non-uniformities in High-temperature alloys During Crystallisation and Heat

Card7/10 Treatment" and "Experimental Investigation of the Process of Crystallisation of Cast Blades Made of Refractory Alloys"; A.M. Yuferov considered the process of recrystallisation of steel.

ARSENOV, E. V.

PHASE I BOOK EXPLOITATION SOV/3791

Soveshchaniye po obrabotke zharoprochnykh splavov, Moscow, 1957.

Obrabotka zharoprochnykh splavov; [sbornik dokladov...] (Treatment of Heat-Resistant Alloys; Collection of Papers Read at the Conference), Moscow, Izd-vo AN SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya; Akademiya nauk SSSR. Institut metallurgii im. A.A. Baykova. Nauchnyy sovet po problemam zharoprochnykh splavov.

Resp. Ed.: V.I. Dikushin, Academician; Ed. of Publishing House: V.A. Kotov; Tech. Ed.: V.V. Bruzgul'.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The book consists of thirty papers read at the Conference on the Treatment of Heat-Resistant Alloys held in Moscow by the Committee on Machine-Building Technology, Institute of the Science of Machines, Academy of Sciences USSR, in 1957. The papers deal with four principal areas of alloy metallurgy: casting, forming, machining, and welding. The alloys (together with refractory carbides, borides, nitrides, and oxides) are discussed especially in connection with their application in the manufacture of turbine blades, heat engines, boilers, reactors, containers for high-temperature media, dies, casting molds, and metal-cutting tools. No personalities are mentioned. Some of the articles are accompanied by references, mainly Soviet.

AKSENOV, F. V.

PHASE I BOOK EXPLOITATION SOV/4344

Soveshchaniye po teorii liteynykh protsessov, 4th

Kristallizatsiya metallov; trudy soveshchaniya (Crystallization of Metals; Transactions of the Fourth Conference on the Theory of Casting Processes) Moscow, Izd-vo AN SSSR, 1960. 325 p. 3,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: B. B. Gulyayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: V. S. Rzheznikov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This book is intended for metallurgists and scientific workers. It may also be useful to technical personnel at foundries.

COVERAGE: The book contains the transactions of the Fourth Conference (1958) on the Theory of Casting Processes. [The previous 3 conferences dealt with hydrodynamics of molten metals (1955), solidification of metals (1956), and shrinkage processes in castings (1957)]. General problems in the crystallization of metals, including the crystallization of constructional steels, alloy steels with special properties, cast iron, and of nonferrous alloys, are discussed. Recognition is given to D. K. Chernov and N. T. Gudtsov and their students, B. B. Gulyayev and A. G. Spasskiy, for their contributions to the understanding of the basic problems involved in the theory of crystallization of ferrous and nonferrous metals and alloys. Academician A. V. Shubnikov is also mentioned in connection with his work on the planning of research on crystal formation. References accompany several of the articles.

III. CRYSTALLIZATION OF SPECIAL-PROPERTY STEELS AND ALLOYS

IV. CRYSTALLIZATION OF CAST IRON

V. CRYSTALLIZATION OF NONFERROUS ALLOYS

YEFIMOV, Grigoriy Vasil'yevich; AKSENOV, G.A., redaktor; SARMATSKAYA, G.I., redaktor izdatel'stva; SHITS, V.P., tekhnicheskiy redaktor

[Drying and thoroughly soaking wood in petrolatum] Sushka i glubokaia propitka drevesiny v petrolatume. Moskva, Goslesbumizdat, 1956. 27 p. (MLRA 9:7)
(Wood--Preservation) (Petrolatum)

AKSENOV, G.A.

BEYLIN, Sholom Iyerukhimovich; SHAYTOR, Petr Seliverstovich; AKSENOV, G.A., redaktor; BEL'CHENKO, N.I., redaktor izdatel'stva; BACHURINA, A.M., tekhnicheskiy redaktor

[Manufacture of spools] Katushechnoe proizvodstvo. Moskva, Goslesbumizdat, 1956. 175 p. (MLRA 10:1)
(Woodworking machinery) (Thread)

AKSENOV, G.A.

Distribution of Bobrinskii's jerboa in the Kyzyl Kum. Uzb.biol. zhur. no.1:64 '60. (MIRA 13:6)

1. Nukusskaya protivochumnaya stantsiya.
(KYZYL KUM--JERBOAS)

BAGAYEV, K.I.; AKSENOV, G.A.

For a reorganization and modernization of equipment and techniques in the furniture industry. Der.prom. 10 no.10:5-7 O '61. (MIRA 14:9)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy derevoobrabatyvayushchey promyshlennosti.
(Furniture industry)

AKSENOV, G.I.; MOROZOV, N.P.; CHAYKA, V.A.

Investigating final structural deformations and the amount of residual austenite in hardened roll steel. Fiz. met. i metalloved. 17 no.5:737-743 My '64. (MIRA 17:9)

1. Kuybyshevskiy aviatsionnyy institut.

AKSENOV, I., kapitan-leytenant

Supplying a ship on cruise. Tyl i snab.Sov.Voor.Sil 21 no.1:56-59 Ja '61. (MIRA 14:6)

(Russia--Navy--Provisioning)

KONDRAT'YEV, I.; ABRAMOV, I.; AKSENOV, I.; KOSTIN, A., inzh.; STADNICHUK, P., mekhanik; DAVYDENKOV, N.; PALEYEV, G.

Supply of spare parts. Avt. transp. 43 no.3:26-29 Mr '65.
(MIRA 18:5)

1. Glavnyy inzh. Novokakhovskoy avtobazy (for Abramov).
2. Starokonstantinovskiy avtopark (for Stadnichuk).