

PROCESS AND PROPERTIES INDEX

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Surface tension of molten metals and alloys. II. Theory

of: the surface tension of metals and alloys. V. K. Semenchenko and N. L. Pokroyki. *Lipetskii Khim. G.* 1946-01 (1937); cf. *C. A.* 32, 844. S. and P. discuss the electron theory of surface tension in pure metals from the standpoint of the thermodynamics of a two-dimensional electron gas, while for alloys they consider the ionic forces acting. By combining the mutual effects of both ions (and nuclei) and electrons, they obtain the equation $\ln G = \ln B' + \gamma (m_0 - m_1) - \ln (V_0 - V_1)$, where G is the surface tension, m_0 and m_1 are the generalized moments of the solvent and solute mols., γ is a function of temp. and nature of the solvent, V_0 and V_1 are the at. vols. of solvent and solute and B' is a characteristic const., and find that it agrees quite well with exptl. data from the literature.

F. H. Rathmann

ASS-514 METALLURGICAL LITERATURE CLASSIFICATION

LITERATURE		SERIES		SUBJECT		CLASSIFICATION		RECORD NUMBER	
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The Surface Tension of Molten Metals and Alloys. II.—Theory of the Surface Tension of Metals and Alloys. V. K. Semchenko and N. L. Inakryskii (*Hajski Khimii (Prog. of Chem.)*, 1937, 6, 945-961; *Chem. Zentr.*, 1938, 100, (1), 3803).—[In Russian.] Deals with the electronic theory of the surface tension of metals.—D. R. S.

ASME-ISA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

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Measurement of the temperature coefficient of the surface tension
of mercury. A. M. Didenko and N. L. Pokrovski (*Compt. rend.
Acad. Sci. U.R.S.S.*, 1941, **31**, 233—236).—Apparatus for measuring
 γ of Hg by Kantor's method is described. Measurements of γ at
0—300° are recorded graphically. $\gamma = 459 \cdot 10^{-8} - 0 \cdot 200$ dynes per
cm. L. S. T.

ПОПОВСКИЙ, Н. Л.

"Investigation of the Surface Tension of Liquid Metals." Thesis for degree of Cand. Chemical Sc.
Sub 18 May 49, Moscow Order of Lenin State University
M. V. Lomonosov.

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

POKROVSKIY, N. L.

PA 38/49T90

USSR/Metals

Tin

Tin Alloys

Mar 49

"The Properties of Metallic Solutions: IV, The Surface Tension of Tin and of Sodium Stannite Alloys," N. L. Pokrovskiy, N. D. Galantina Moscow State U Imeni M. V. Lomonosov, Lab of Phys of Solutions, MIIP Moscow, 8 pp

"Zhur Fiz Khimii" Vol XIII, No 3

Develops device reliable up to 450° C for measurement in a vacuum of surface tension of easily fused alloys, based on method of maximum pressure in a drop. Measures surface tension of tin

38/49T90

USSR/Metals (Cont'd)

Mar 49

and its alloys with sodium, and concentration of the latter is deduced in the range of 0.05 to 4.6% of atmospheric pressure. Develops method of forming in a vacuum tin sodium alloys and metal specimens with highly finished surfaces for metallographic analysis. Establishes effect of sodium on crystallization process of subject alloys. Metallographic analysis shows gradual increase of dispersion in relation with concentration of sodium in agreement with the hypothesis of V. K. Semenchenko. Submitted 9 Jun 48.

38/49T90

POKROVSKIY, N. I.

USSR/Chemistry - Adsorption

Jul 52

"The Dependence of the Heat of Wetting Silica Gel by Water on the Degree of Filling of Its Surface," A. V. Kiselev, K. G. Krasil'nikov, N. L. Pokrovskiy, N. N. Avgul', O. M. Dzhigit and K. D. Shcherbakova, Moscow State U imeni M. V. Lomonosov.

Zhur Fiz Khim, Vol 26, No 7, pp 986-997

This work has both theoretical and practical value. The dependence of the heat of wetting of silica gel by water, on the quantity of previously adsorbed water, was measured on a homogeneous, coarsely porous silica gel made from SiCl_4 and having a known specific surface. Results of the measurements established the absolute dependence of the heat of wetting by water and the differential heat of adsorption of the water vapor on amount of water adsorbed per unit of surface. The differential heat of adsorption of water vapor decreases in proportion to the increase in the degree of filling of the surface.

PA 248T10

POKROVSKIY, N. L.

259T21

USSR/Metallurgy - Tin, Phase Transition 21 Apr 53

"Effect of Minor Admixtures on Polymorphic Transformations in Tin," V. K. Semchenko, N. L. Pokrovskiy, V. B. Lazarev

DAN SSSR, Vol 89, No 6, pp 1021-1024

Explains mechanism of spontaneous transformation of beta-Sn to alpha-Sn as follows: substances which reduce surface tension of liquid Sn immunize it against formation of alpha-Sn crystals, while elements which increase surface tension promote beta-to-alpha-Sn transition. Corroborates this

259T21

assumption by expts using 2 kinds of impurities: Al, which accelerates phase transition, and Ag and Bi, which are inhibitors of modification. Presented by Acad G. G. Urazov 25 Feb 53.

POKROVSKIY, N.L.

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Properties of metallic solutions. V. Effects of Zn, Al, Cd, Mn, and Bi on the properties of liquid and solid Sn. N. L. Pokrovskii and M. Saldoy (M. V. Lomonosov Moscow State Univ.). *Zhur. Fiz. Khim.* 29, 1031-9 (1955); *Chem. Abstr.* 47, 10339g. — The surface tension and d. of the fused alloys were measured in a glass app. in which the pressure necessary for the formation of a drop (in vacuum or a gas phase) upon an upper cross-section of a vertical capillary was produced by the wt. of a column of the alloy studied. The Sn for the alloy production was purified by heating in a vacuum to 1000°, and the alloy properties were detd. at 250-500° and compared with the data for the pure Sn. Zn and Mn were found to be inactive in the alloy, i.e. they raise its surface tension. Mn was found to inhibit the β -Sn \rightarrow α -Sn transformation. Metallographic study has revealed that inactive addns. (Zn, Al) have no effect on the dispersion structure of the initial crystal, but the active constituents increase the...

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AUTHOR: Gulyayev, B.B.
TITLE: Conference on Crystallization of Metals (Soveshchaniye po Kristallizatsii Metallov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, No. 4, pp 153 - 155 (USSR)

ABSTRACT: This conference was held at the Institute Mashinovedeniya AN SSSR (Institute of Mechanical Engineering of the Ac.Sc. USSR) on June 28-31, 1958. About 400 members 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. Cziki (East Germany) and J. Chvorinov (Czechoslovakia). This conference on crystallization of metals was the fourth conference relating to the general problem of the theory of foundry processes. **Crystallization of Non-ferrous Metals.** N.M. Belousov and A.A. Lukinoy - In their paper "Investigation of the Crystallization and the Properties of Non-ferrous Metals under Conditions of Applying Pressure", presented results of experiments on producing castings which crystallize under pressure from all sides and piston pressure within a wide range of specific loads. The results of the investigation of applying pressure for improving existing methods of casting material or improving existing methods of alloying are presented. The influence of the crystallization of alloys. The influence of the conditions of crystallization on the casting and mechanical properties of aluminum alloys, at normal and elevated temperatures, were discussed in the papers of I.Y. Kolobov and A.Ye. Gusev. The results of investigations of the conditions of crystallization of aluminum alloys during continuous casting were presented in the paper of Ye.P. Zakharov. S.L. Potrovskiy and D.Ye. Ovsyenko dealt with the features of crystallization of various non-ferrous alloys and the physico-chemical phenomena accompanying this process.

Crystallization of Metals in the Welding Bath. The following papers were read: B.A. Mikhlin - Investigation of the Features of the Microscopic Chemical Non-uniformity in Alloys; G.I. Babitskiy - Crystallization and Chemical Non-uniformity in Weld Joints; M.Kh. Shogborev and V.S. Sedukhin - Influence of Non-uniformities of Crystallization in the Weld Bath on the Formation of Hot Cracks. **Crystallization of Metals in an Ultrasonic Field.** The following papers were read: Ye.L. Lehtaber of the Ac.Sc. of the USSR - Crystallization of Metals and Alloys in an Ultrasonic Field; I.I. Gerasimov - Influence of Ultrasonic Oscillations on the Processes of Crystallization and the Technological Properties of Alloys; L.L. Shubin and A.A. Yermolov - Effect of Ultrasonics on Crystallizing Metal in the Weld Bath.

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POKROVSKIY, N.L.

Category : USSR/Atomic and Molecular Physics - Liquids

D-8

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6424

Author : Pokrovskiy, N.L.

Title : On Certain Properties of Surface-Active Metals

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 6, 1383-1386

Abstract : The surface tension (σ) of solutions of Te in liquid Sn (concentration 0.004 -- 0.004 atomic percent) was measured at 250 -- 550°. It was observed that Te has considerable surface activity (approximately 40 dyne/cm at concentrations of 0.02%), which diminishes with increasing temperature and is commensurate with the surface activity of sodium dissolved in tin. An increase in σ was noticed in a solution of tellurium in tin with increasing temperature, followed by a subsequent decrease at higher temperatures. The value of the surface activity in tin was used to calculate the adsorption of tellurium and sodium, and to plot isotherms of the state of the adsorbed layer at 300°. It is shown that the state of the tellurium layer is described by an equation of

Card : 1/2

POKROVSKIY, N.L.

Category : USSR/Atomic and Molecular Physics - Liquids

D-8

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6428

Author : Fokrovskiy, N.L., Saidov, M.

Title : Instrument for Measuring Surface Tension and Density of Liquid Metals in Vacuum.

Orig Pub : Fiz. metallov i metallovedeniye, 1956, 2, No 3, 546-551

Abstract : A glass instrument was developed for determining the surface tension α and the density ρ of liquid metals in a vacuum. The instrument is suitable for temperatures to 550°. The accuracy in the determination of ρ is 0.2%, that of α is approximately 1%. The value of ρ is determined by measuring the height of a column of the investigated liquid required to balance a known gas pressure (H_2). The value of α is determined from the maximum pressure of the column of the investigated liquid, corresponding to the escape of a drop from a capillary stub. The value of α was measured for refined tin at 250 -- 550°; the effects of impurities contained in commercial tin of "02" grade on α were established. The values of ρ for commercial and refined tin were measured at the same temperatures.

Card : 1/1

SOV/70-4-3-16/32

AUTHORS: Koren'kova, O.P. and Pokrovskiy, N.L.

TITLE: Investigation of the Physico-chemical Properties of Linear Aliphatic Polyesters

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 3, pp 386-392 + 2 plates (USSR)

ABSTRACT: Experimental data are given which characterise the phase transformations and structural properties of the polyesters obtained from aliphatic dicarboxylic acids and glycol. To elucidate the phase states of the polymers, thermal, thermographic, X-ray and microscopic methods of analysis have been applied, supplemented by the calorimetric determination of the latent heat of crystallisation of the polyesters. X-ray data confirmed the existence of long range order and crystal-optical studies showed that, depending on their chemical structures, polyesters crystallise as spherulites of two types. The polyesters were obtained by the direct condensation, without catalysts, of the poly-methylene series of acids, from succinic to sebacic, with various glycols. In appearance, the polymers were white opaque solids or transparent viscous liquids.

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SOV/70-4-3-16/32

Investigation of the Physico-chemical Properties of Linear Aliphatic Polyesters

Their molecular weights varied between 5 000 and 10 000. Thermal analysis and D.J.A. diagrams are reproduced and show the material to behave like low-molecular-weight substances forming Bertholide compounds. A phase diagram supports this conclusion. Heat changes accompanying phase changes were measured calorimetrically, the heat of crystallisation of these polyesters being about 0.30 kcal/g of polymer. Data on 7 different materials are tabulated. X-ray powder photographs were taken of each specimen, some monochromatised by reflexion from pentacrythritol, but results were not very clear because line widths depended on several factors besides crystallite size. Materials were studied ^{with} an MIRA-4 polarising microscope where the natures of the spherulitic particles could be readily seen to be of two kinds: a) radial rays and b) concentric layers. Polymers with spherulites of the latter structure include molecules of di- and tri-ethylene glycol which make the chains more flexible because of the free rotation possible about the C-O-C ester bonds. Polymers with more rigid

Card2/4

SOV/70-4-3-16/32
Investigation of the Physico-chemical Properties of Linear
Aliphatic Polyesters

chains form radial spherulites. The influence of mechanical deformation on the crystallisation kinetics was studied. It was established that grinding the preparations at the time of crystallisation did not eliminate the spherulites but promoted the formation of more and finer spherulites which occurred in chains. The reasons for spherulite formation are still obscure and must be examined further as they are of great importance. There are 5 figures, 1 table and 18 references, of which 14 are Soviet, 3 English and 1 German.

ASSOCIATIONS: Moskovskiy gosudarstvennyy universitet imeni
M.V. Lomonosova (Moscow State University imeni
M.V. Lomonosov)
Institut kristallografii AN SSSR (Institute of
Crystallography of the Ac.Sc., USSR)

Card3/4

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AUTHORS: Pokrovskiy, N. L., Tissen, D. S.

66432

SOV/20-128-6-37/63

TITLE: The Investigation of Adsorption Layers on the Liquid Metal Surface

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 6, pp 1228 - 1231 (USSR)

ABSTRACT: A survey of relevant papers is given as an introduction: on the surface activity of alkali metals on liquid Hg, Sn, Pb, and Bi (Ref 1), furthermore Te on Sn (Refs 2,3), S on Cu (Ref 4), O and S on Fe (Ref 5). The authors investigated the surface tension σ of thallium and antimony on liquid tin. Sn had been purified by means of zone melting and contained less than $1 \cdot 10^{-3}\%$ by weight of impurities. Tl and Sb had a degree of purity of 99.99%. The surface tension of the Tl solutions in Sn was investigated at temperatures between 270 and 400° and a Tl concentration of 0.18-1.96 at %. Figure 1 shows the function $\sigma = f(N)$ (N = Tl concentration). The isothermal lines approach each other as N increases, and at 1.96 at % of Tl the temperature factor K of the surface tension equals zero. The isothermal lines may easily be determined by means of equation (1) devel-

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The Investigation of Adsorption Layers on the
Liquid Metal Surface

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oped by Shishkovskiy. The surface activity G_0 of the Tl dissolved in tin decreases as the temperature increases. The surface tension of the solution of antimony in tin was investigated at a Sb content of between 0.5-5.90 at % and temperatures of 300-450° (Fig 2). The linear course of the σ isothermal lines is remarkable. The adsorption Γ of Tl and Sb on the surface of liquid Sn was calculated according to the Gibbs equation. The curves $\Gamma^{(v)} = f(N)$ for Tl - Sn are also contained in figure 1, and for Sb - Sn in figure 2. From the adsorption of Tl and Sb the area covered by one atom of the said elements on the surface of liquid tin was calculated. As is shown in figure 3, the calculated values lie along the ideal isothermal line of a gaseous two-dimensional layer, the course of which is determined by the equation $\pi\omega = kT$ (π = surface tension in dyn/cm, ω = area of one atom of Tl or Sb on the Sn in \AA^2). The adsorption heats calculated for Bi, Tl, Sb on the surface of liquid Sn correspond as to their order of magnitude to the values for the adsorption of gases and vapors on solid surfaces (Ref 12). The adsorption heat of Te is much greater so that in the case

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The Investigation of Adsorption Layers on the
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of Te an additional chemical reaction due to the formation of SnTe has to be assumed. The authors thank Professor V. K. Semenchenko for the interest shown in their work, and Professor A. V. Kiselev for his valuable advice. There are 4 figures and 15 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: June 6, 1959, by M. M. Dubinin, Academician

SUBMITTED: May 28, 1959

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81570

S/076/60/034/06/13/040
B015/B061

IR 8100

AUTHORS: Pokrovskiy, N. L., Tissen, D. S. (Moscow)

TITLE: The Properties of Metallic Solutions. VI. The Effect of Indium and Germanium Admixtures on the Surface Tension and Microstructure of Tin¹

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 6, pp. 1238-1242

TEXT: The effect of indium and germanium admixtures on the surface tension σ of tin was examined, as In and Ge show a similar value of σ as tin, possess different melting temperatures, and are soluble in liquid and solid tin (Table, physicochemical properties of In, Ge, and Sn). The surface tension was determined by the capillary method. The value σ was measured on two tin samples in the temperature range from 250-500°C, i.e., on tin purified by zone melting, and on tin purified by long heating at 1000°C in vacuo. Both samples showed the same σ value within the limits of the error in measurement. The surface tension of Sn - In solutions was determined in the temperature range 250-450°C with additions

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81570

The Properties of Metallic Solutions. VI. The Effect of Indium and Germanium Admixtures on the Surface Tension and Microstructure of Tin S/076/60/034/06/13/040 B015/B061

of 0.34 to 2.42 at% In, and the Sn - Ge system at 400-500°C with additions of from 0.5 to 2 at% Ge. It was established that In and Ge do not change the surface tension of tin. Tests on the microstructure of alloys and crystallization kinetics with additions of from 0.005 to 0.05 at% Ge or In showed that these quantities of admixtures do not alter the structure of the tin, whilst additions of from 0.4 at% strongly affect the dispersion degree of tin. Germanium refines the tin structure to the same degree by crystallization by rapid or slow cooling, whilst with In admixtures, the effect on the structure of tin depends on the rate of cooling. With a cooling rate of 0.7°C per minute, a coarse structure is obtained, and with a rate of 7°C per minute, a fine one. V. I. Karpov and V. D. Kuznetsov are mentioned in the text. There are 3 figures, 1 table, and 14 references: 8 Soviet, 1 French, 5 American, and 1 German.

Card 2/3

POKROVSKIY, N. L.

"The Influence of Admixtures On Phase Transformations In Tin Purified By Zonal Melt."

report submitted for 4th Intl. Symposium on the Reactivity of Solids, Amsterdam, 30 May -
4 June 1960.

POKROVSKIY, N.L. (Moskva)

Existence of interaction between particles in diluted liquid
metal solutions. Izv. AN. SSSR. Otd. tekhn. nauk. Met. i topl.
no.3:122-124 My-Je '61. (MIRA 14:7)
(Liquid metals) (Chemistry, Metallurgic)

S/126/61/012/005/012/028
E193/E383

AUTHORS: Pokrovskiy, N.L. and Smirnova, T.G.

TITLE: The effect of sodium and zinc additions on the structure and microhardness of tin

PERIODICAL: Fizika metallov i metallovedeniye, v. 12, no. 5, 1961, 708 - 713

TEXT: One of the methods of refining the structure of metals consists of adding a small quantity of a suitable, so-called, modifying alloying constituent. In studies of the modifying effect of various additions, it is important to use high-purity metals, to ensure chemical and thermal stability of the moulds and to prepare the experimental alloys by vacuum-melting. All these conditions are easier to meet for low-melting point metals and it was for this reason that tin was selected as being particularly suitable for the purpose of the present investigation, whose object was to study the effect of a surface-active (Na) and a surface-inactive (Zn) metal on the structure and microhardness of zone-refined high-purity (99.9992%) tin. The experimental specimens, containing Card 1, *154*

The effect of

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E193/E383

0.010 - 0.516 at.% Na or 0.004 - 0.910 at.% Zn, were prepared in glass ampules in a vacuum of 10^{-5} mm Hg. The ampule was placed in a sand-filled thermostat after the alloy had become molten, and allowed to cool to room temperature in 10 - 12 hours. Two methods were used in the preparation of metallographic specimens. In one, the surface of cast metal was filed with a barette file and polished with a velvet cloth covered with a special paste recommended in Ref. 5 (Metall., 1952, 17/18, 528). In the second method a liquid alloy was poured in vacuum through a capillary into a cylindrical glass mould, at the bottom of which a flat polished optical glass disc had been placed. After solidification, the flat end of the cylindrical ingot in contact with the polished glass disc had a mirror surface which did not require further polishing. The structure was revealed by etching in concentrated HCl, in which a few grains of potassium chlorate had been dissolved. The results can be summarized as follows.

1) Sodium inhibits excessive grain growth of Sn during the

Card 2/54

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E193/E383

The effect of

solidification and acts as a grain-refining addition. The effect of Zn is much less pronounced.

2) The effect of the additions studied on the degree of dispersion of the structure of the surface layer, plastically deformed and recrystallized during mechanical polishing, is different. In this case Zn is the more active addition, which can be attributed to the fact that Zn, being soluble in Sn, raises its recrystallization temperature. It is also for the same reason that the hardness of Sn, unaffected by Na additions, increases with increasing Zn content. This is shown by data reproduced in a table, where the microhardness values of various alloys, tested under a load of 30 g, are given, the microhardness

of pure Sn being $H = 6.2 \text{ kg/cm}^2$.

3) The grain growth in the surface layer, plastically deformed during polishing and subsequently annealed for 3 hours at 150°C , was markedly inhibited by Na but only slightly so by Zn additions. ✓

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S/126/61/012/005/012/028
E193/E583

The effect of

4) The effects observed depended, in the first instance, on the solubility of the alloying additions in solid Sn. Both the published data and the results of the present investigation indicate that Zn is soluble and Na practically insoluble in Sn. ✓

There are 3 figures, 1 table and 8 references: 5 Soviet-bloc and 3 non-Soviet-bloc. The English-language references mentioned are: Ref. 2: P. Gay, A. Kelly - Acta Crystall., 1953, 6, no. 2, 172; Ref. 7: M. Hansen, K. Anderko - Constitution of Binary Alloys, McGraw-Hill Book Co. Inc., New York-Toronto-London, 1958.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University im. M.V. Lomonosov)

SUBMITTED. March 13, 1961

Card 4/54

POKROVSKIY, N.L.

STRUCTURE AND PHYSICAL PROPERTIES OF MATTER IN A LIQUID STATE
reports read at the 4th Conference convened in KIEV from 1 to 5 June
1959, published by the publisher House of KIEV University, KIEV,
USSR, 1962

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ACC NR:

AR7000869

SOURCE CODE: UR/0058/66/000/009/E048/E048

AUTHOR: Pokrovskiy, N. L.; Smirnova, T. G.

TITLE: Influence of surface-active and inactive impurities on the grain growth of tin in the process of collective recrystallization

SOURCE: Ref. zh. Fizika, Abs. 9E385

REF SOURCE: Sb. Poverkhnostn. yavleniya v rasplavakh i vznikayushchikh iz nikh tverd. fazakh. Nal'chik, 1965, 443-448

TOPIC TAGS: surface tension, recrystallization, ~~surface active agent~~, tin, ~~impurity~~, zinc ~~impurity~~, sodium ~~impurity~~, bismuth ~~impurity~~, thallium ~~impurity~~, silver ~~impurity~~, antimony ~~impurity~~, ~~impurity concentration~~, *GRAIN GROWTH*, *CRYSTAL IMPURITY*, *METAL SURFACE*

ABSTRACT: The kinetics of the grain growth of Sn in the presence of small concentrations (0.001—0.5 at %) of surface-active (Na, Bi, Sb, Tl), surface neutral (In, Ag), and surface-active (Zn) impurities are studied. A certain parallelism has been found in the influence of these impurities on the surface tension of molten Sn, at the interface with the vacuum, and on the rate of grain

Card 1/2

ACC NR: AR7000869

growth V . For Bi, Tl, Sb, and In, the following linear dependence holds well:
 $\lg V = f(\lg(c(r-r_0)))$, where c —impurities in at.% concentration; and
 r and r_0 —the atomic radii of P and Sn impurities. Noticeable deviations from
linearity are observed for other impurities, and may be explained in some cases
by the very small solubility of the impurities (Na, Ag), and in other cases by the
non-activity of the impurities (Zn). It is determined that all impurities studied
greatly increase the activation energy of the grain growth of Sn. B. Summ.
[Translation of abstract] [GC]

SUB CODE: 11/

Card 2/2

L 575:5-65 EPA(s)-2/EWI(m)/EPE(n)-2/ENP(t)/ENP(b) Pt-7/Pub-4 IJP(z)

ACCESSION NR: AR5013004

WW/JD/JG

UR/0137/65/000/004/A006/A006

669-154.532.61

SOURCE: Ref. zh. Metallurgiya, Abs. 4A27

AUTHOR: Ibragimov, Kh. I.; Pokrovskiy, N. L.

TITLE: A method for measuring the surface tension of metallic melts

CITED SOURCE: Uch. zap. Checheno-Ingushsk. gos. ped. in-t, no. 22, 1964, 126-130

TOPIC TAGS: surface tension, ²⁷gallium, ²⁷tin alloy, ²⁷bismuth alloy, vacuum metallurgy

TRANSLATION: A number of problems connected with methods of measuring the surface tension σ of pure Ga and Sn-Bi melts as well as with the test conditions were studied. A particularly detailed description is given of the harmful effect of vapors of lubricants used in vacuum metallurgy and it is established that these are the principal reasons for low surface tension in pure metals and for the anomalous behavior of the relationship $\sigma = f(t)$. Disadvantages of the ring separation method are pointed out and a critical examination is made of the design of instruments (gas and "gravitational") based on the maximum pressure method. Data are

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ACCESSION NR: AR5013004

given from measurements of 14 Sn-Bi alloys in relation to composition (0-100 at %) and temperature (145-500°C). The $\sigma = f(c)$ and $\sigma = f(t)$ functions in this work do not confirm the effects discovered for a eutectic system in the work of Klyachko, Yu. A. and Kunin, L. L. (*Dokl. AN SSR*, 1959, 64, No 1, 85). It is concluded that this discrepancy is due to the methodical deficiencies noted above. Authors' abstract.

SUB CODE: MM

ENCL: 00

Liquid Metals 12

Card

L 93691-65 EWT(1)/EWT(m)/EPA(s)-2/T/EWP(t)/EEC(b)-2/EWP(b)/EWA(c)
Pt-7/Pi-4 IJP(c) JD/JG/GG

ACCESSION NR: AP5008786

S/0126/65/019/003/0401/0405/44
66.065.53

AUTHOR: Pokrovskiy, N. L.; Smirnova, T. G.

TITLE: Effect of soluble and insoluble impurities on the recrystallization of zone refined tin ¹

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 3, 1965, 401-405

TOPIC TAGS: zone refining, recrystallization, impurity content

ABSTRACT: The recrystallization of zone refined tin and of tin containing bismuth (0.005-0.1 at. %), sodium (0.006-0.05 at. %), and indium (0.05-0.1 at. %) impurities was studied. A specially developed instrument is described with which it was possible to continually observe the sequential stages of crystallization. It was found that all the impurities increased the recrystallization temperature of tin, with the greatest effect being shown by bismuth, followed by sodium and indium. The effect of each impurity is explained as being the individual degree of surface activity and solubility or insolubility of each element in solid tin. "In conclusion we express deep gratitude to Ye. V. Kolontsova and V. K. Semenchenko for par-

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L 53691-65

ACCESSION NR: AP5008786

3
ticipation in discussing the results of the work and for their valuable comments and advice, to V. V. Chirkova for help in setting up the experiments and to V. A. Sivokho for participation in adjusting the instrument. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: Moskovskiy gosuniversitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 04Mar64

ENCL: 00

SUB CODE: MM

NO REF SOV: 011

OTHER: 004

JK
Card 2/2

POKROVSKIY, N. L.

"Issledovanie migratsin mezhaerennykh granits i rekristallizatsin i olove, sodержatsem primesi."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome, 9 Sep 63.

Physics Dept, Moscow State Univ.

POKROVSKIY, N.L.; SMIRNOVA, T.G.

Simultaneous action of zinc and sodium impurities on the microhardness and structure of a recrystallized surface layer of tin. Fiz.met.i metalloved. 14 no.6:890-894 D '62.

(MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Tin alloys—Metallography) (Hardness)

POKROVSKIY, N.L.

Forms of surface tension isotherms and polytherms of metal solutions. Ukr. fiz. zhur. 7 no.8:845-853 S '62. (MIRA 16:1)

1. Moskovskiy universitet.

(Surface tension) (Liquid metals)

POKROVSKIY, N. L.; YEVLANOVA, N. F.; KIRICHENKO, V. V.

Effect of impurities on polymorphic transformations in lead.
Fiz. met. i metalloved. 14 no.4:564-568 0 '62.
(MIRA 15:10)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

(Lead--Metallography)
(Phase rule and equilibrium)

42733

S/843/62/000/000/010/010
D207/D308

574400

AUTHORS:

Pokrovskiy, N.L. and Tissen, D.S.

TITLE:

Investigation of the adsorbed layers on a liquid metal surface

SOURCE:

Stroyeniye i fizicheskiye svoystva veshchestva v zhidkom sostoyanii; materialy IV sovesch. po probl. zhidkogo sost. veshchestva, v Kiyeve 1959 g. Kiev, Izd-vo Kiev. univ., 1962, 119-123

TEXT:

The authors investigated the surface tension and adsorption properties of dilute tin-thallium and tin-antimony alloys because of the importance of surface tension in some problems in the theory of liquid metal state. The alloys were prepared in vacuum from zone-purified tin (less than 10⁻³% by weight of impurities) and from 99.99% pure thallium and antimony. The surface tension was measured using the maximum-value method for a liquid drop. With increase of temperature there were two competing effects: the usual decrease of the surface tension and an increase of the surface ten-

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Investigation of the adsorbed ...

3/843/62/000/000/010/010
D207/D308

sion due to desorption of thallium or antimony. In the case of Sn + 1.96 at.% Tl the two effects cancelled each other and the surface tension was independent of temperature between 250 and 400°C. From the surface tension data the adsorption (in g-atom/cm²) of thallium and antimony on liquid tin was calculated: this adsorption decreased with increase of temperature. The adsorbed thallium and antimony were found to be in a state similar to that of a two-dimensional ideal gas. The authors also calculated the heats of adsorption on liquid tin: they were 1200, 2000, 2700 and 7700 cal/g-atom for bismuth, thallium, antimony and tellurium respectively (in this calculation the authors used some published data in addition to their own results). The heats of adsorption were comparable with the values for physical adsorption of gases and vapors on solid surfaces. For the systems tin-thallium and tin-antimony the heats of adsorption were close to the partial molar heats of solution of thallium and antimony in tin. The heat of adsorption of tellurium on tin was several times greater than the heats of adsorption for the other three metals; it was comparable with the heat of formation of SnTe from liquid tin and solid tellurium, indicating that adsorp-

Card 2/3

X

ACC NR: AR6035099 SOURCE CODE: UR/0137/66/000/008/A005/A005

AUTHOR: Ibragimov, Zh. I.; Pokroyskiy, N. L.; Pugachevich, P. P.;
Semenchenko, V. K.

TITLE: Investigation of the surface tension of the tin-bismuth and tin-lead systems

SOURCE: Ref. zh. Metallurgiya, Abs. 8139

REF SOURCE: Sb. Poverkhnostn. yavleniya v rasplavakh i voznikayushchikh iz
nixh tverd. fazakh. Nal'chik, 1965, 169-276

TOPIC TAGS: tin, bismuth system, tin lead system, surface tension, temperature coefficient, gravitation method

ABSTRACT: The surface tension σ of the Sn—Bi (14 alloys) and Sn—Pb (13 alloys) systems has been investigated by the gravitational method. The isotherms and polytherms obtained did not show extreme or bend points. The eutectic fields of both systems were carefully analyzed. The study of the relation $\sigma=f(t)$ revealed a number of new phenomena. With increased concentration of one of the components, a regular decrease of the temperature coefficient of the

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UDC: 669.6'4-154:532.61

ACC NR: ARG035099

surface tension $da/dt = K$ is observed. For the Sn—Bi system, K passes through zero twice, while for the Sn—Pb system, the values $K < 0$. Orig. art. has: 5 figures. Bibliography of 7 titles. G. Fents. [Translation of abstract]
[NT]

SUB CODE: 11/

POKROVSKIY, N.M., prof., doktor tekhn.nauk; TRUPAK, N.G., prof.,
doktor tekhn. nauk, ratsenent; CHECHKOV, L.V., red.
izd-va; ZHIVRINA, G.V., tekhn. red.; LAVRENT'YEVA, L.G.,
tekhn. red.

[Building and modernization of mines] Sooruzhenie i rekon-
struktsiia gornyykh vyrabotok. Izd.5. Moskva, Gosgortekh-
izdat. Pt.3. [Special methods of building and modernizing
mines] Spetsial'nye sposoby sooruzheniia i rekonstruktsiia
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(Mine engineering)

ORLOV, Vasily Vasil'yevich; YANCHUR, Aleksandr Mikhaylovich;
BABICHEV, Nikolay Semenovich; PETROV, Anatoliy
Moiseyevich; PONOMARENKO, Aleksey Kuz'mich; GUDZ',
Aleksandr Grigor'yevich; POKROVSKIY, N.M., zasl. deyatel'
nauki i tekhniki RSFSR, prof., doktor tekhn. nauk,
retsensent; CHERNEGOVA, E.N., ved. red.

[Mine workings and their support] Provedenie i kreplenie
gornykh vyrabotok. [By] V.V.Orlov i dr. Moskva, Nedra,
1965. 496 p. (MIRA 18:7)

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Sovremennyye Metody Provedeniya Gorizonta'nykh Vyrabotok Iz Praktiki Ssha I Anglii.
Gornyy Zhurnal, No 3, 1934, Str. 45-49.
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F

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Tn283.P59

POKROVSKIY, N.M. [author]; BABICHEV, N.S., gorny inzhener [reviewer].

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by N.S. Babichev. Ugol' vol.28 no.11:46-48 N '53. (MLRA 6:11)
(Pokrovskii, N.M.) (Shaft sinking)

PLOTHIKOV, A.M.; POKROVSKIY, N.M., redakter; SLOVOROSOV, A.Kh., redakter;
ALADOVA, Ye.I., tekhnicheskii redakter.

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POKROVSKIY, N.M., doktor tekhn.nauk; NASONOV, L.N., kand.tekhn.nauk;
CHEKIN, A.I., kand.tekhn.nauk; NASONOV, I.D., kand.tekhn.nauk

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POKROVSKIY, N.M., professor, doktor tekhnicheskikh nauk; KOSHELEV, V.I.,
otvetstvennyy redaktor; SANOVICH, P.O., redaktor izdatel'stva;
PROKOROVSKAYA, V.L., tekhnicheskiy redaktor; KOROVENKOVA, Z.A.,
tekhnicheskiy redaktor.

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POKROVSKIY, Nikolay Mikhaylovich, professor, doktor tekhnicheskikh nauk;
KITAYSKIY, Ye.V., redaktor; SAVIN, M.M., redaktor; ALADOVA, Ye.I.,
tekhnicheskiiy redaktor.

[Mining engineering on horizontal and inclined planes] Provedenie
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(Mining engineering)

POKROVSKIY, NIKOLAY, MIKHAYLOVICH

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L.V., red. izd-va; SHKLYAR, S.Ya., tekhn. red.; MINSKER, L.I.,
tekhn. red.

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[Coal mine construction work in the U.S.S.R.; on the 40th anniversary
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(Coal mines and mining)

Technical Staff

TARASOV, Leonid Yakovlevich; POKROVSKIY, N.M., professor, doktor
tekhnicheskikh nauk, retsenzent; SELEDKOV, Yu.V. gornyy inzhener,
retsenzent; YAKHONTOV, A.D., redaktor; SHUSTOVA, B.M., redaktor
izdatel'stva; KARASEV, A.I., tekhnicheskii redaktor

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courses for experts] Provedenie i kreplenie gornykh vyrabotok;
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PAVLOV, Konstantin Vasil'yevich; POKROVSKIY, N.M., prof., doktor nauk,
retsensent; YAKHONTOV, A.D., kand.tekhn.nauk, retsensent;
PARTSEVSKIY, V.N., red.izdatel'stva; ISLENT'YEVA, P.G., tekhn.red.

[Mining; mine tunneling and timbering] Gornye raboty, provedenie
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(MIRA 11:1)

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POKROVSKIY, N.M.

BEYLINA, TS.O., inzhener; BLAGONADEZHIN, V.Ye., inzhener; BOGUSLAVSKIY, P.Ye., kandidat tekhnicheskikh nauk; VORONKOV, I.M., professor, GITINA, L.Ya., inzhener; GROMAN, M.B., inzhener; GOROKHOV, N.V., doktor tekhnicheskikh nauk [deceased]; DENISYUK, I.N., kandidat tekhnicheskikh nauk; DOVZHUK, S.A., kandidat tekhnicheskikh nauk; DUKEL'SKIY, M.P., professor, doktor khimicheskikh nauk [deceased]; DYKHOVICHNIY, A.I., professor; ZHITKOV, D.G., professor, doktor tekhnicheskikh nauk; KOZLOVSKIY, N.S., inzhener; LAKHTIN, Yu.M., doktor tekhnicheskikh nauk; LEVENSON, L.B., professor, doktor tekhnicheskikh nauk [deceased]; LEVIN, B.Z., inzhener; LIPKAN, V.F., inzhener; MARTYNOV, M.V., kandidat tekhnicheskikh nauk; MOLEVA, T.I., inzhener; NOVIKOV, F.S., kandidat tekhnicheskikh nauk; OSETSKIY, V.M., kandidat tekhnicheskikh nauk; OSTROUMOV, G.A.; PONOMARENKO, Yu.F., kandidat tekhnicheskikh nauk; RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk; REGIRER, Z.L., inzhener; SOKOLOV, A.N., inzhener; SOSUNOV, G.I., kandidat tekhnicheskikh nauk; STEPANOV, V.N., professor; SHEMAKHANOV, M.M., kandidat tekhnicheskikh nauk; EL'KIND, I.A., inzhener; YANUSHEVICH, I.V., kandidat tekhnicheskikh nauk; BOKSHITSKIY, Ya.M., inzhener, redaktor; BULATOV, S.B., inzhener, redaktor; GASHINSKIY, A.G., inzhener, redaktor; GRIGORO'YEV, V.S., inzhener, redaktor; YEGURNOV, G.P., kandidat tekhnicheskikh nauk, redaktor; ZHARKOV, D.V., dotsent, redaktor; ZAKHAROV, Yu.G., kandidat tekhnicheskikh nauk, redaktor; KAMINSKIY, V.S., kandidat tekhnicheskikh nauk, redaktor; KOMARKOV, Ye.F., professor, redaktor; KOSTYLEV, B.N., inzhener, redaktor; POVAROV, L.S., kandidat tekhnicheskikh nauk, redaktor; ULINICH, F.R., redaktor; KLORIK'YAN, S.Kh., otvetstvennyy redaktor; GLADILIN, L.V., redaktor;

(Continued on next card)

BEYLINA, TS.O. --- (continued) Card 2.

RUPPENeyT, K.V., redaktor; TERPIGOREV, A.M., glavnyy redaktor;
BARABANOV, F.A., redaktor; BARANOV, A.I., redaktor; BUCHNEV, V.K.,
redaktor; GRAFOV, L.Ye., redaktor; DOKUKIN, A.V., redaktor; ZADEMID-
KO, A.N., redaktor; ZASYAD'KO, A.F., redaktor; KRASHIKOVSKIY, G.V.
redaktor; LETOV, N.A., redaktor; DISHIN, G.L., redaktor; MAN'KOV-
SKIY, G.I., redaktor; MEL'NIKOV, N.V., redaktor; ONIKA, D.G.;
redaktor; OSTROVSKIY, S.B., redaktor; POKROVSKIY, N.M., redaktor;
POLSTYANOV, G.N., redaktor; SKOCHINSKIY, A.A., redaktor; SONIN,
S.D., redaktor; SPIVAKOVSKIY, A.O., redaktor; STANCHENKO, I.K.,
redaktor; SUDOPLATOV, A.P., redaktor; TOPCHIYEV, A.V., redaktor;
TROYANSKIY, S.V., redaktor; SHEVYAKOV, L.D., redaktor; BYKHOV-
SKAYA, S.N., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnicheskiy
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banov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po ugol'noi
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(Mining engineering) (MLRA 10:10)

POKROVSKIY, N.M.

ANDROS, I.P., inzh.; ASSONOV, V.A., kand. tekhn. nauk.; BERNSTEYN, S.A., inzh.; BOKIY, B.V., prof.; BROVMAN, Ya.V., inzh. BONDARENKO, A.P., inzh.; BUCHNEV, V.K., kand. tekhn. nauk; VERESKUNOV, G.P., kand. tekhn. nauk; VOLKOV, A.F., inzh.; GULESKUL, M.N., kand. tekhn. nauk; GORDNICHYEV, V.M., inzh.; DEMENT'YEV, A.Ye., inzh.; DOKUCHAYEV, M.M., inzh.; DUBNOV, L.V., kand. tekhn. nauk; YEPIFANTSEV, Yu.K., kand. tekhn. nauk.; YERASHKO, I.S., inzh.; ZHEKIDANOV, S.A., kand. tekhn. nauk; ZIL'BERBROD, A.F., inzh.; ZINCHENKO, E.M., inzh.; ZORI, A.S., inzh.; KAPLAN, L.E., inzh.; KATSAUROV, I.N., dots.; KITAYSKIY, E.V., inzh.; KRAVTSOV, Ye.P., inzh.; KRIVOROG, S.A., inzh.; KRINITSKIY, L.M., kand. tekhn. nauk; LITVIN, A.Z., inzh.; MALEVICH, N.A., kand. tekhn. nauk; MAN'KOVSKIY, G.I., doktor tekhn. nauk; MATKOVSKIY, A.L., inzh.; MINDELI, E.O., kand. tekhn. nauk; NAZAROV, P.P., kand. tekhn. nauk; NASONOV, I.D., kand. tekhn. nauk; NEYENBURG, V.Ye., kand. tekhn. nauk; POKROVSKIY, G.I., prof., doktor tekhn. nauk; PROYAVKIN, E.T., kand. tekhn. nauk; ROZENBAUM, inzh.; ROSSI, B.D., kand. tekhn. nauk; SEMEVSKIY, V.N., doktor tekhn. nauk; SKIRGELLO, O.B., inzh.; SUKHUT, A.A., inzh.; SUKHANOV, A.F., prof., doktor tekhn. nauk; TARANOV, P.Ya., kand. tekhn. nauk; TOKAROVSKIY, D.I., inzh.; TRUPAK, N.G., prof., doktor tekhn. nauk; FIDOROV, S.A., prof., doktor tekhn. nauk; FEDYUKIN, V.A., inzh.; KHOKHLOVKIN, D.M., inzh.; KHRABROV, N.I., kand. tekhn. nauk; CHEKAREV, V.A., inzh.; CHERNAVKIN, N.N., inzh.; SHREYBER, B.P., kand. tekhn. nauk; EPOV, B.A., kand. tekhn. nauk; YAKUSHIN, N.P., kand. tekhn. nauk; YANCHUR, A.M., inzh.; YAKHONTOV, A.D., inzh.; POKROVSKIY, N.M., otvetstvennyy red.; KAPLUN, Ya.G. [аессагс], red.; MONIN, G.I., red.; SAVITSKIY, V.T.,

(Continued on next card)

ANDROS, I.P.---(continued) Card 2.

red.; SANOVICH, P.O., red.; VOLOVICH, M.Z., inzh., red.; GORITSKIY,
A.V., inzh., red.; POLUYANOV, V.A., inzh., red.; PADEYEV, E.I.,
inzh., red.; CHUCHKOV, L.V., red. izd-va; PROZOROVSKAYA, V.L.,
tekh. red.; NADWINSKAYA, A.A., tekh. red.

[Mining; an encyclopaedic handbook] Gornoe delo; entsiklopedicheski
spravochnik, Glav. red. A.M. Terpigorev. Moskva, Gos. nauchno-
tekhnicheskoe izd-vo lit-ry po ugol'noi promyshl. Vol. 4 [Mining
and timbering] Provedenie i krepenie gornykh vyrabotok. Red-
kollegiya: toma: N.M. Pokrovskii... 1958. 464 p. (MIRA 11:7)

(Mine timbering) (Mining engineering)

POKROVSKIY, N.M., prof.; KATSAUROV, I.N., dots.; BARONENKOV, A.V., dots.;
CHUPRINOV, G.D., dots.; NASONOV, L.N., dots.

"Vertical shaft sinking" G.V. Surmilo. Reviewed by N.M. Pokrovskii
and others. Shakht.stroi. no.12:32-33 '58. (MIRA 11:12)
(Shaft sinking) (Surmilo, G.V.)

POKROVSKIY, Nikolay Mikhaylovich, prof., doktor tekhn.nauk; KITAYSKIY, Ye.V.,
otv.red.; PETRAKOVA, Ye.P., red.izd-va; KOROVMENKOVA, Z.A., tekhn.red.

[Sinking of vertical mine shafts by the regular method] Pro-
khodka vertikal'nykh stvolov shakht obychnym sposobom. Izd.2.
Moskva, Ugletekhizdat, 1959. 443 p. (MIRA 12:7)
(Shaft sinking)

POKROVSKIY, N.M.; TSISKARISHVILI, E.I.; KIKNADZE, I.V., tekhred.

[Mining engineering] [Provedenie gornyykh vyrabotok. Tbilisi,
Gos.izd-vo uchebno-pedagog.lit-ry "TSodna." In Georgian].
Vol.2. 1959. 486 p. (MIRA 13:3)
(Mining engineering)

SKUYBIN, Fedor Timofeyevich; POKROVSKIY, N.M., prof., red.; POKROVSKIY,
N.M., otv.red.; CHECHKOV, L.V., red.izd-va; IL'INSKAYA, G.M.,
tekhn.red.

[Mine shaft bottoms] Okolostvol'nye dvory shakht. Pod red. N.M.
Pokrovskogo. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu
delu, 1960. 61 p. (MIRA 14:1)
(Shaft sinking)

POKROVSKIY, N.N., prof.

Consultation. Shakht. stroi. 5 no. 2:28-29 P '61.

(MIA 14:2)

1. Moskovskiy gornyy institut.

(Mine lighting) (mine timbering)

ACC NR: AP7000931

(N)

SOURCE CODE: UR/0391/66/000/012/0044/0046

AUTHOR: Pokrovskiy, N. N. (L'vov)

ORG: Institute of Epidemiology, Microbiology and Hygiene, L'vov (Institut epidemiologii, mikrobiologii i gigiyeny)

TITLE: Effect of industrial noise on the blood pressure of machine construction workers

SOURCE: Gigiyena truda i professional'nyye zabolevaniya, no. 12, 1966, 44-46

TOPIC TAGS: industrial medicine, acoustic biologic effect, blood pressure, electrocardiography

ABSTRACT: Two groups of workers composed of 995 male metal workers and machine tool workers ages 17 to 55 yrs were investigated to determine the effect of machine shop noises on blood pressure. The first group (508 workers) was exposed to medium frequency noise of 80 to 85 db intensity, and the second group (487 workers) was exposed to high frequency noise of 90 to 95 db intensity. Blood pressure was measured before and during the work shifts and evaluated according to Ya. A. Rosin's system in which the systolic and diastolic pressures are considered as parts of the same process. ECG data were recorded for 71 persons ages 20 to 40 yrs of the first group and 113 persons of ages 20 to 40 yrs the second group. Study data show that

Card 1/2

UDC: 613.644:621+612.14.014.45

ACC NR: AP7000931

the blood pressure of subjects in the second group (90 to 95 db) deviates more frequently from the norm; statistically reliable results were established for ages 21 to 30 yrs and 31 to 40 yrs. In the second group, subjects ages 17 to 20 yrs displayed mostly low blood pressure (hypotonia and diastolic hypotonia and subjects ages 41 to 55 yrs displayed mostly high blood pressure (systolic hypertension and hypertonic disease). For the second group, the mean systolic pressure value for subjects ages 17 to 30 yrs was 4 to 5 mm lower than the norm, and for subjects ages 31 to 55 yrs was 3 to 4 mm higher than the norm. In the second group, the diastolic pressures of all age groups did not differ significantly from those working under relatively quiet conditions. ECG data showed that the heart contraction frequency of subjects ages 20 to 40 yrs of the second group is marked by greater deviations, both higher and lower. The author concludes that the blood pressure of persons exposed to more intense noise is subject to more expressed fluctuations. Orig. art. has: 2 tables.

SUB CODE: 06/ SUBM DATE: 31Dec64/ ORIG REF: 008/ OTH REF: 001

Card 2/2

COUNTRY : USSR
CATEGORY :
ABS. JOUR. : Microbiol., No. 3 1959, No. 10142
AUTHOR : Pokrovskiy, N. N.
INST. : L'vov Scientific Research Institute of Epidemiology, *
TITLE : The Content of Thermophilic Microorganisms in
Drinking Water
ORIG. PUB. : Sb. nauchn. rabot. L'vovsk. n.-i. in-t epidemiol.,
mikrobiol. i gigiyeny, 1957, No 2, 140-144
ABSTRACT : * Microbiology and Hygiene

The possibility was studied of utilizing thermophilic bacteria as an additional test for sanitary hygienic evaluation of drinking water. An examination was made of 318 samples from various water sources. Cultures were made by means of filter membranes. Pure water was seeded on 3% MPA in quantities of 100 cubic centimeters or more; the culture was carried out at 60° for 24 hours. The greatest number of

Card:

1/3

42

COUNTRY :
CATEGORY :
ABS. JOUR. : RZhbiol., No. 1959, No. 10142
AUTHOR :
INST. :
TITLE :
ORIG. PUB. :
ABSTRACT : thermophiles was found in the water of open water bodies (on the average, 253.6 per liter); the least, in tap water (3.2 per liter). The presence of a large number of thermophiles and an insignificant number of colon bacilli is evidence of contamination of the water with old dung and garbage; the opposite relationship is encountered most often with fresh fecal contamination of the water. The question of the importance of thermophiles as an index of the sanitary situation in drinking water requires further
Card: 2/3

POKROVSKIY, N.N. (L'vov)

Hygienic evaluation of noise in subterranean work in the coal mines of the Lvov-Volyn' Basin and its influence on the hearing of the workers. Gig. truda i prof. zab. 7 no.1:14-18
Ja'63 (MIRA 16:12)

1. Institut epidemiologii, mikrobiologii i gigiyeny, L'vov.

POKROVSKIY, N. N.; BRILINSKIY, L. I.; GNACHUK, V. P. (L'vov)

Hygienic significance of vibration in sinkers' work. Gig. truda
i prof. zab. 5 no.7:46-47 J1 '61. (MIRA 15:7)

1. L'vovskiy nauchno-issledovatel'skiy institut epidemiologii,
mikrobiologii i gigiyeny.

(VIBRATION—PHYSIOLOGICAL EFFECT)
(MINERS—DISEASES AND HYGIENE)

POKROVSKIY, N.N.; KISHKO, Ya.G.; OSTRANITSA, A.P.

Attachment to I.U.A.Krotov's apparatus for making a bacteriological analysis of air in the field. Lab.delo 4 no.2:45-46 Mr-Apr '58.

(MIRA 11:4)

1. Iz L'vovskogo instituta epidemiologii, mikrobiologii i gigiyeny (dir. - kandidat meditsinskikh nauk S.D.Klyuzko, nauchnyy rukovoditel' prof. L.A.Chernaya)

(AIR--BACTERIOLOGY)

Subject : USSR/Hydraulic Engineering

AID P - 3199

Card 1/1 Pub. 35 - 3/19

Author : Pokrovskiy, N. S., Kand. Tech. Sci.

Title : Waterproofing of assembled reinforced concrete parts by saturation

Periodical : Gidr. stroi., 5, 10-12, 1955

Abstract : The article deals with properties of reinforced concrete saturated with bitumen and coal tar (pitch), and describes various tests made on stresses, waterproofing, and reactions to different chemical agents. One diagram. Three Russian references, 1937-1947.

Institution : None

Submitted : No date

POKROVSKIY, N.S.

ZHEBIBIN, A.S.; POKROVSKIY, N.S.

New techniques in stamping iron armature cores. Avt. 1 trakt.prom.
no.8:(Insert) Ag '55. (MIRA 8:11)
(Armatures)

POKROVSKIY, N.S., kandidat tekhnicheskikh nauk.

Impregnating concrete with bitumen by means of an "internal vacuum process." Izv. VNIIG 56:101-105 '56. (MLBA 10:8)
(Concrete piling)

GLEBOV, P.D.; POKROVSKIY, N.S. (Leningrad).

Using porous asphalt in making filters for tubular wells. Vol. 1
san. tekhn. no.3:29-30 Mr '58. (MIRA 11:3)
(Filters and filtration) (Asphalt)

SOV-98-58-10-4/16

AUTHORS: Glebov, P.D., Doctor of Technical Sciences, Professor, Honored Scientist and Technician RSFSR; Pokrovskiy, N.S., Candidate of Technical Sciences

TITLE: Materials for the Waterproofing of Prefabricated Concrete Structures by Impregnation (Materialy dlya propitochnoy gidroizolyatsii elementov sbornykh zhelezobetonnykh konstrukt-siy)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1958, Nr 10, pp 17-20 (USSR)

ABSTRACT: The authors present a study on materials for impregnation of hydraulic engineering concrete structures. Prefabricated reinforced concrete structures are especially considered. The results of these studies are given in graph form. Synthetic materials such as styrolmonomer and metacrylate were proposed as insulating agents, but they were too expensive, toxic and inflammable. Bitumens BN-III and BN-IV were tested as soaking-impregnation materials. They proved to be unsuitable because of their high viscosity. The BN-II, BN-I and BN-C bitumens, as well as paraffin, ozokerite and petrolatum are suggested for future tests. Petrolatum is

Card 1/2

Materials for the Waterproofing of Prefabricated Concrete Structures by
Impregnation SOV-98-58-10-4/16

recommended as the most suitable material for impregnation
of concrete. There are 4 graphs, 1 table and 11 references,
7 of which are Soviet, 3 American and 1 German.

1. Reinforced concrete--Insulation
2. Waterproof coatings
- Materials
3. Methanes--Applications

Card 2/2

POPCHENKO, S.N., kand.tekhn.nauk; POKROVSKIY, N.S.

Quality of pavement bitumen must be improved. Avt.dor. 24 no.12:
14-15 D '61. (MIRA 14:12)

(Bitumen)

POKROVSKIY, Nikolay Stepanovich; LEONOV, B.V., red.

[Saturation waterproofing of concrete] Propitochnaia
gidroizoliatsiia betona. Moskva, Energiia, 1964. 68 p.
(MIRA 18:4)

POKROVSKIY, N.S., red.; GODINER, F.Ye., red.; SORKIN, M.Z., tekhn.
red.

[Methods of protection from nuclear, chemical and
bacteriological weapons] Sposoby zashchity ot iadernogo,
khimicheskogo i bakteriologicheskogo oruzhiia; uchebno-
metodicheskoe posobie dlia obshchestvennykh instruktorov.
Pod obshchei red. N.S.Pokrovskogo. Moskva, Izd-vo
DOSAAF, 1963. 126 p. (MIRA 17:2)

1. Vsesoyuznoye dcbrovol'noye obshchestvo sodeystviya
armii, aviatsii i flotu.

POKROVSKIY, N.V.

ORLOV, S.P.; KAPNIN, Ye.B., kandidat tekhnicheskikh nauk, retsentsent;
POLYAKOV, G.F., redaktor, inzhener; POKROVSKIY, N.V., inzhener,
redaktor; UVAROVA, A.F., tekhnicheskij redaktor.

[Unit weighing devices] Vesovye doziruushchie ustroistva. No -
skva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1955. 154 p.
(Weighing-machines) (MLRA 8:11)

POKROVSKIY, N.V.

BOGOSLOVSKIY, Yu. V., kand. tekhn. nauk; POKROVSKIY, N.V., zaveduyushchiy
redaktsiyey, inzh.

[The UZD-7N supersonic flaw detector] Ul'trazvukovoi defektoskop
UZD-7N. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry,
1957. 63 p. (Moscow. Tsentral'nyi nauchno-issledovatel'skii institut
tekhnologii i mashinostroyeniya. Nauchno-tekhnicheskaya informatsiya,
no.32) (MLRA 10:9)

(Metals--Testing)

POKROVSKIY, N.V.

PHASE I BOOK EXPLOITATION

183

AUTHOR: Belousov, A. B.

TITLE: Organization of the Work of a Measurement Laboratory
in a Machine-building Plant (Organizatsiya raboty
izmeritel'noy laboratorii mashinostroitel'nogo zavoda)

PUB. DATA: Gosudarstvennoye nauchno-tekhnicheskoye izdatel'stvo
mashinostroitel'noy literatury, Moscow, 1957, 104 pp.,
10,000 copies

ORIG. AGENCY: None given

EDITOR: Ivanov, A. G., Candidate of Technical Sciences; Ed.
for Machinery and Instrument Construction:
Pokrovskiy, N.V., Engineer; Ed. of the Publishing House:
Prokof'yeva, L. G.; Tech. Ed.: Uvarova, A.F.; Reviewer:
Rymar', N.F., Engineer

PURPOSE: The monograph is authorized as a textbook for technical
schools by the Academic Council for Professional and

Card 1/6

Organization of the Work (Cont.)

183

Technical Education of the Main Administration of Labor Reserves,
Council of Ministers, USSR.

COVERAGE:

The book presents basic principles for organizing and operating a measurements laboratory in a machine-building plant. A brief review of the following aspects is presented: the importance of preserving the unity of measures; rules for verification of standards and instruments; preparation of verification schemes, charts, and documents for verifying, rating and certifying measuring devices; the procedure for verification of measuring devices; cutting tools and instruments in actual use. The book deals with official Soviet practices. There are 13 references, all of them Soviet.

Card 2/6

USSR/Cultivated Plants-Grains

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82264

Author : Pokrovskiy, N.V.

Inst : Milyutinsk State Selection Station

Title : On the Problem of Wheat of Biologically Winter Varieties
on the Dry Soils of Uzbekistan

Orig Pub : Byul. nauchno-tekhn. inform. Milyutinsk. gos. selekts.
st., 1957, No 2, 34-41

Abstract : Under the conditions of arid soils of Uzbekistan the
economic and historical selection contributed to the
formation of a unique ecotype of wheat varieties known
in literature as dvuruchka [two-handed]. In the study
of the native wheat of Uzbekistan, out of 695 specimens
only 25 proved to be winter varieties, and the remaining
670 were represented by spring forms. Dvuruchkas proved

Card 1/2

- 11 -

SHUMKOV, M.A.; POKROVSKIY, O.S.

Areas of concentration of the larvae of the mosquitoes of the genus Aedes and their control in the Don floodlands under conditions of unusually high flood. Med. paraz. i paraz. bol. 34 no.1:109 Ja-F '65.
(MIRA 18:8)

1. Rostovskiy nauchno-issledovatel'skiy institut meditsinskoy parazitologii.

Year/Medicine - Blood Transfusion 1 May 52

"The Biological Value of Blood Preserved Under Combined Addition of Glucose and Sucrose," N. B. Chernyev, P. I. Pokrovskiy, N. N. Abezgaуз, Gen Inst of Hemetol and Blood Transfusion

"Dok Ak Nauk DAN SSSR" Vol LXXXIV, No 1, pp 109-112

Glucose serves as a nutrient for erythrocytes in preserved blood, but increases their vol (a phenomenon which leads to hemolysis). Sucrose does not act as a nutrient, but counteracts the harmful effect of glucose by preserving the size and shape of erythrocytes. Expts showed that addn of both glucose and sucrose to citrate used for 224755

preservation of blood delays hemolysis by a period of 10-15 days as compared with other hydrocarbon preservatives. In testing the quality of blood, the deg of hidden hemolysis (selective agglutination with anti-M and anti-N sera), bilirubin, iron, serum protein, hemoglobin, and erythrocyte number were detd.

POKROVSKIY, P.I.

224755

POKROVSKIY P. I.

USSR / Human and Animal Physiology. Blood. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41200.

Author : Pokrovskiy, P. I.; Oldurova, S. V.

Inst : Not Given.

Title : The Effect of Preserving Agents and the Duration of Blood Storage on the Survival of Erythrocytes and Their Circulation Time in the Recipient.

Orig Pub: V sb.; Sovrem. probl. gematol. i perelivaniya krovi Vyp. 32,k., Medgiz, 1956, 164-173.

Abstract: An analysis of 121 transfusions of blood prepared according to 7 formulas, stored for 5-15-25 days, is presented. The number of donor erythrocytes (E) in the recipient's blood was determined by the

Card 1/3

USSR / Human and Animal Physiology. Blood. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41200.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341710003-1"

Abstract: method of selective agglutination with anti-M and anti-N sera by a method elaborated at the CIOHBTOL (Central Institute of Hematology and Blood Transfusion of the Order of Lenin). The erythrocytes of the blood preserved with the formulae CIOHBTOL No. 2,3,6,7,8,9, maintained the ability to survive for a long period of time. The best media appear to be solutions of glucose-citrate (formula No 7), glucose saccharo-citrate (formula No 9), and glucose-citrate-saline (formula No 2); somewhat less effective- saccharose-citrate solution (formula No 6); the erythrocytes of blood stored for 5 days preserved with citrate with the addition of carbohydrates had a survival time almost similar to that of direct transfusions (86-89.7%). In transfusions of blood stored for 15 days and preserved with

Card 2/3

KRYLOV, P.A.; POKROVSKIY, P.I.; SAYTANIDI, L.D., tekhn.red.

[Manual on work norms, pay systems, awards, and labor protection for workers, employees, and specialists of state farms, horse studs and other enterprises under the Ministry of State Farms of the U.S.S.R.] Spravochnik o normakh vyrabotki, poriadke oplaty truda, premirovani i okhrane truda rabochikh, sluzhashchikh i spetsialistov sovkhozov, konnykh zavodov i drugih khoziaistv sistemy Ministerstva sovkhozov SSSR. Moskva. Pt.2. 1957. 335 p. (MIRA 12:9)

1. Russia (1923- U.S.S.R.) Ministerstvo sovkhozov.
(State farms) (Wages) (Agriculture--Safety measures)

POKROVSKIY, P. N.

Pokrovskiy, P. N. - The problem on the indications and contraindications of electroconvulsive therapy according to the condition of the internal organs," Trudy Tsentra in-ta psikhiatrii, Vol. IV, 1949, p. 323-34

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

PROCESSES AND PROPERTIES INDEX

Morphology and mineralogy of the ore veins of the Zel'noi Kochharshil district. P. V. Pokrovskii. Soviet Geol. 9, No. 2, 66-80(1969). Quartz and massive sulfide deposits have been converted to serpentinitized, kaolinized and silicified adamelites enriched with arsenopyrite, chalcopyrite, pyrite and others, jamesonite, boulaugetite, plagiomite and hungarite being of special interest. The order of deposition from the mineral solns. of changing compn. was As, Fe, Zn, Cu, Sb and Pb. Con. exploitation as a complex polymetallic ore is deemed possible.

F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

4 GROUPS 100 AND 1000 CORDS 20 LETTERS 100 AND 1000 CORDS 20 LETTERS

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

8

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX

W. EISEN
 Ammonium chloride crystals from the soft coals of
 i Kharmarin-Khural-Khid, Mongolian S.S.R. P. V. Pok-
 royski. *Zapiski Voenyuz. Mineral. (Obshchestvo) (Nem-
 sc. russ. mineral.)* 70, No. 1, 10 (1960). Soft coal
 seams (analysis given) contain vitrain and fusain. Parts
 of these coal beds caught fire in 1952 or 1953. The com-
 bustion gases escaped to the surface through deep cracks.
 From these gases NH_4Cl was formed as a white sublimate
 on the burnt schists and slates. One cavity of 1.2 m
 length and 20-40 cm. width, 20 cm. high, was lined with
 an aggregate of sublimed crystals. The crystals were
 mostly dendritic skeletons, growing in parallel fibrous ag-
 gregates perpendicular to the walls of the cracks or cavi-
 ties, but not filling them completely. Often these ag-
 gregates were impregnated and colored yellow by native
 S. Similar fibrous aggregates are also often rose or blue-
 colored. The spectral analysis of such samples showed
 traces of Si, Mg, Fe, Ca, but almost no Al. Most of
 these elements may be derived from sand inclusions, ex-
 cepting Mg. A chem. analysis of the samples showed:
 33.31% NH_4 , 63.50% Cl, 0.19% insol. Morphological
 data are given. W. EISEN

METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX

POKROVSKIY, P. V.

USSR

The nature of the siliceous powdery incrustation on chalcidony. P. V. Pokrovskii and M. N. Tsindalenko. *Trudy Gorno-Geol. Inst., Akad. Nauk S.S.S.R., Ural Filial* No. 20. *Mineralog. Sbornik* No. 2, 144-7(1953).—Chalcidony from the southern Urals often had a surface incrustation of a milk-white color. Spectral analysis of the chalcidony and the white substance gave almost identical results, indicating a siliceous compn. for the white substance. X-ray analysis also gave identical results. G. S. M.

POKROVSKIY, P. V., and TSIMBALENKO, M.N.

"Nature of the Siliceous Powdery Incrustations on Chalcedony"
Tr. Geom-geol. in-ta Ural'skogo fil. AN-SSSR, 1953, No 20, 144-147

The chalcedony found in the fissures in the zone of garnet skarns (South Urals) has its surface covered with a very thin incrustation, milky white in color, which covers the entire surface of the specimen or only the end of the stalactites, but sometimes is covered with jutting dots. The genetic relation between the chalcedony and the incrustation is not clear.
(RZhGeol, No 3, 1954)

SO: W-31187, 8 Mar 55

POKROVSKIY, P.V.

Some regularities in changes near fissures of rocks. Zap. Vses. min.
ob-va 83 no.3:264-268 '54. (MLRA 7:11)
(Rocks--Cleavage)