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D205/D303

AUTHORS:

Korneristyy, Yu.K., Bannykh, O.A., Zudin, I.F., and Prokoshkin, D.A.

TITLE:

Influence of aluminum and carbon on properties of steel with 10 % Cr and 13 % Mn, at elevated temperatures

SOURCE:

Akademiya nauk SSSR. Institut metallurgii. Issledovaniya po zharoprochnym splavam, v. 7, 1961, 317-328

TEXT: The influence of Al addition in the range of 2.35 - 4.67 % and of C in the range of 0.1 - 0.8 % was investigated in 10 % Cr and 13 % Mn steel in which the appearance of the σ -phase is excluded. The samples were prepared by smelting in a magnesite crucible, in an induction furnace, and consisted of Armco iron, Cr, Mn (96.5% pure) and Al metal. C was introduced by addition of synthetic cast iron. The ingots were forged into cylinders of 12 and 20 mm diameter, starting the forging at 1150° - 1200°C ending at 750°C. The samples were then hardened by quenching in water from 950°C for 2

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hours prior to testing. The resulting structures were: Without Al and with 0.1 % (I), with 2.5 % Al, 0.4 % C (V) and with 2.5 % Al, 0.8 % C (VI). These steels were austenitic. With 2.35 % Al and 0.1 % C (II) the structure was 65 % austenite 35 % ferrite; with 3.12 % Al, 0.1 % C (III) - 90 % ferrite; with 4.67 % Al, 0.1 % C (IV) - 100 % ferrite. The temperature dependence of strength and plasticity was examined, using an ИМ-4Р (IM-4R) machine. The hot hardness was examined at 700°, 800° and for samples V and VI also at 900°C, on the ВИМ-ИМ (VIM-IM) apparatus, using a sapphire indentor. Resistance to creep was examined on the ИП-2 (IP-2) and IP-5 machines, using stresses of 9 kg/mm² in the temperature range of 550 - 750°C. Resistance to scaling was examined by the weight gain of samples heated for various times in muffle furnaces in the 900 - 1200°C temperature range. The austenite of the 10 % Cr, 13 % Mn and 0.1 % C steel is unstable and is transformed into martensite under the action of plastic deformation. Aluminum exerts a high ferrite-forming action and lowers the high-resistance characteristics. Exploiting the γ -forming ability of carbon, the austenitic structure can be achieved in steel containing aluminum. 0.4 % of C in the presence

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of 2.5 % Al gives a stable austenitic structure. The resistance of this steel (V) is higher than that of the other investigated steels. The resistance to scaling increases sharply with an increase of Al content. The increase of C up to 0.4 % lowers the resistance to scaling. Further increase of C to 0.8 % has little bearing in this respect. Steel (V) has good heat and scale resistances up to 700°C and can be used for durable service under stress up to 650°C, instead of Cr-Ni steel 1X18H9T (1Kh18N9T). There are 7 figures, 1 table and 12 references: 10 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: Brady and Baughner, Iron Age, 194, no. 7, 1959; A.J. Schmatz, Metal Progr. 76, no. 4, 1959.

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18.11.1
AUTHORS:

Prokoshkin, D.A., Bannykh, O.A., Bratenko, V.N., and
Zudin, I.F.

TITLE:

Investigating some heat-resistant chromium-manganese
steels alloyed with nitrogen, molybdenum and boron

SOURCE:

Akademiya nauk SSSR. Institut metallurgii. Issledova-
niya po zharoprochnym splavam, v. 7, 1961, 370 - 378

TEXT: The authors investigated heat-resistant Cr-Mn steels contain-
ing 17 % Cr, 13 % Mn and 0.2 % N. According to the equilibrium
diagram for the Fe-Cr-Mn system an alloy containing 17 % Cr and 12%
Mn at temperatures above 850 - 870° possesses an austenitic-ferrite
structure and at very low temperatures the ferrite decomposes form-
ing the σ -phase. Addition of 0.2 % N ensures the stable structure
of the γ -solid solution near to the saturation limit. Mo increases
the heat-resistance of steel by entering both into the α -solid so-
lution and into the γ -solid solution. Alloying the above steel with
Mo enabled the dependence of the heat-resistant properties on the
phase composition of the steel and the degree of saturation of γ -
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and α -solid solution to be investigated. The investigation consisting of two parts was carried out with the following steels: 1) 0% Mo; 2) 1% Mo; 3) 3% Mo; 4) 5% Mo (part I); 5) 3% Mo + 0.001% B; 6) 3% Mo + 0.004% B; 7) 3% Mo + 0.008% B (part II). Part I: Tests carried out were: 1) Dependence of the hardness of various steels on the quenching temperature; 2) Microstructure after quenching from 1000°C; 3) Dependence of the ultimate strength and corresponding elongation on temperature in the range 600 - 900°C; 4) Measurement of creep resistance at 700° and 750°C; 5) A steel quenched (from 1100°C) in water, then subjected to ageing (at 750°C) for 10 hours was investigated for strength and ductility when tested to fracture (20 - 900°C) also for temperature dependence of the impact strength, long-time thermal stability and long-time strength under a load. The results are fully discussed. Part II: According to S.M. Vinarov (Ref. 10: Trudy MAI, no. 123, Oborongiz, 1960) the ability of small amounts of B to increase the heat resistance of steels depends on the method of introducing B into the steel and the chemical composition of the latter. The steels chosen were those previously investigated in part I which showed small creep resistance. All the investigated steels after quenching (from 1150°C) X

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in eater then subjected to ageing at 700°C (for 10 hrs) had $\gamma + \sigma$ structure. In order to obtain maximum information on the effect of B at higher temperatures, the mechanical properties were investigated in the temperature range 20 - 700°C. Studied were: 1) Dependence of strength and ductility of steel with various additions of B on the temperature; 2) Impact strength (resilience); 3) Creep resistance; 4) Heat resistance at 700°C. The authors concluded that steels 1 and 2 of the austenite structure possess a much higher heat resistance than other steels (3, 4, 5, 6, 7) having two-phase ($\gamma + \sigma$) structure. Molybdenum increases the heat resistance of steels of both austenitic and two-phase structure. Alloying with Mo in amounts which do not cause formation of the second phase is useful. The optimum amount of Mo is that near to the saturation limit for a given concentration of N in the steel. Additions of B improve the heat resistance of steel. Of the alloys investigated those containing 0.001 % B showed the best effect. There are 3 figures and 10 references: 9 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: J.T. Brown, Metal progr., 74, 2, 1958.

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PROKOSHKIN, Dmitriy Antonovich; ZUDIN, Ivan Feofanovich; SHARIPKULOV, Rustan Salikhovich; BANNYKH, Oleg Aleksandrovich; KURNAKOV, N.N., prof., doktor khim. nauk, otv. red.; CHERNOV, A.N., red. izd-va; VOLKOVA, V.Ye., tekhn. red.

[Alloying of chromium-manganese stainless steel] Legirovanie khromomargantsovistoi nerzhaveiushchei stali. Moskva, Izd-vo Akad.nauk SSSR, 1961. 74 p. (MIRA 14:11)
(Chromium-manganese steel--Metallurgy)

BANNYKH, O.A. (Moskva); ZUDIN, I.P. (Moskva); KASHIN, V.I. (Moskva); PROKOSHIN,
D.A. (Moskva)

Certain properties of iron-aluminum alloys on an alpha-solid
solution base. Izv. AN SSSR. Otd. tekhn. nauk. Met. i topl. no. 5:
149-155 S-O '60. (MIRA 13:11)
(Iron-aluminum alloys--Testing)

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S/180/60/000/005/017/033
E111/E135AUTHORS: Bannykh, O.A., Zudin, I.F., Kashin, V.I., and
Prokoshkin, D.A. (Moscow)TITLE: Some Properties of Iron-Aluminium Alloys Based on the
 α -Solid SolutionPERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Metallurgiya i toplivo, 1960, No. 5, pp. 149-155

TEXT: The authors point to the advantageous properties (e.g. low density, high corrosion- and scaling-resistance) of iron-aluminium alloys, in spite of which comparatively little industrial use is made of them. For their own investigation of the strength and plasticity of such alloys the authors used the following range of compositions, %: 4.87-16.82 Al; 0.005-0.094 Mn; 0.013-0.100 Si; 0.02-0.05 S; 0.002-0.012 P; 0.018-0.020 C; 0.002-0.015 O; 0.004-0.011 N; (not all the S and P analyses were carried out). The alloys were melted in a vacuum induction furnace described by Kashin et al. (Ref.9) or in air from aluminium-deoxidized Armco iron and grade ABOOOO (AVOOOO) aluminium. Fig.1 shows alloy density as a function of aluminium content. Impact strength as function of the test temperature is shown in

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Some Properties of Iron-Aluminium Alloys Based on the α -Solid Solution

Fig.2 and the cold brittleness threshold (temperature at which the alloy acquired an impact strength of 2 kg/cm²) as a function of aluminium content in Fig.3 (air-melted alloys represented by interrupted lines in both figures). For tensile testing at 20-700 °C a type M1-4P machine was used. Tensile strength, yield point and relative elongations, as functions of aluminium content for various temperatures, are shown in Fig.4. Fig.5 shows relative elongation as a function of temperature for air- and vacuum-melted alloys (right- and left-hand graphs). Grain size as a function of holding time at 1100 °C for vacuum-melted alloys is shown in Fig.6. The influence of heating temperature on hardness for two alloys with 15% Al is shown in Fig.7 (air-melted, curve 1; vacuum-melted, curve 2): the hardness of both has a maximum at about 350-450 °C, but rises much more steeply and attains a higher value with vacuum melting. Vacuum melting also improves other high-temperature properties of Fe-Al alloys.

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Some Properties of Iron-Aluminium Alloys Based on the α -Solid Solution

Increasing aluminium content to about 15% increases strength at 20-600 °C; at 700 °C it has little effect. Maximum strength and adequate plasticity are obtained at 400 °C; above 600 °C strength falls sharply while plasticity increases. There are 7 figures, 1 table and 16 references: 5 Soviet, 10 English and 1 German.

SUBMITTED: May 27, 1960

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SHARIPKULOV, R.S.; BANNYKH, O.A.; GONCHAROV, I.Ye.; ZUDIN, I.F.;
LINGHEVSKIY, B.V.; PROKOSEKIN, D.A.

Effect of chromium and manganese on phase transitions in chrome-
manganese steels. Izv. AN Uz.SSR. Ser. tekhn. nauk no. 4:62-69
'60. (MIRA 13:8)

1. Institut metallurgii AN SSSR, Gornyy otdel AN UzSSR.
(Steel alloys)

BANNYKH, O.A.; ZUDIN, I.P.

Regularities of the δ -phase formation in steel with 18 percent chromium and 14 percent manganese. Issl. po sharopr. splay. 6:187-194 '60.

(Chromium-manganese steel--Metallography)
(Phase rule and equilibrium)

(MIRA 13:9)

S/167/60/000/004/001/003
A006/A001

AUTHORS: Sharipkulov, R. S., Bannykh, O. A., Goncharov, I. Ye., Zudin, I. F.,
Linchevskiy, B. V., Prokoshkin, D. A.

TITLE: The Effect of Chromium¹ and Manganese¹ on Phase Transformations¹⁸ of
Chrome-Manganese Steels¹⁴

PERIODICAL: Izvestiya Akademii Nauk UzSSR, Seriya tekhnicheskikh nauk, 1960,
No. 4, pp. 62-69

TEXT: In developing chrome-manganese stainless steels by replacing the nickel by manganese, investigations into structural phases had been carried out previously by A. V. Shultin, F. F. Khimushin, F. M. Becket (Ref. 1, 2, 7); G. V. Estulin (Ref. 3); A. T. Grigor'yev, D. L. Kudryavtsev (Ref. 4, 6) and foreign scientists (Ref. 8-10). In the present article information is given on the effect of manganese and chromium on phase transformations in steel. In a 12-kg induction furnace, 16 alloys with different chromium and manganese content and one chrome-nickel alloy containing Ti were melted. Changes in hardness after water quenching at 800, 900, 1,000, 1,100 and 1,200°C were studied. The dependence of the hardness on temperature is shown in Table 3. After quenching

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the specimens were subjected to an analysis of the microstructure. The steels were tempered at 650, 700, 750 and 800°C. Changes in H_{RC} depending on the tempering time of steels with 17% Cr, quenched at 1,100°C, are given in Table 4. The connection of a possible δ -phase formation and higher hardness was determined by investigating the magnetic properties of the steel. Specimens of all steel melts were analyzed on an M. S. Akulov type anisometer at 20°C, after tempering at 750°C for 10 hours. The amount of a ferromagnetic phase was determined for various steel grades. Dilatometrical analysis was made on chrome-manganese specimens quenched at 1,100°C with subsequent annealing at 750°C for 10 hours. Curves of temperature versus linear expansion for three grades of steel with 10% Cr were plotted (Fig. 2). A phase analysis was made of precipitates out of an electrolyte on saturated potassium chloride base with addition of 5 to 50 mg/l hydrochloric acid and 5 to 25 g/l citric acid at a current density of 0.6 - 1.0 amp/cm² and a temperature not over 20°C. A copper cylinder was used as a cathode. 9 to 12 mm specimens were placed into a collodion bag filled with 100 - 130 ml of the filtrated electrolyte. The precipitates were



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separated from the electrolyte, washed and dried at 100°C in hydrogen atmosphere for 20 to 30 minutes. Roentgenograms were taken of the dried precipitates with a PKA (RKD) camera on Cr radiation without using a filter. Exposure time was 13 to 18 hours. A chemical analysis was made of precipitates separated out of 4 steel grades in an electrolyte composed of 250 g/l potassium chloride, 5 mg/l hydrochloric acid, 5 g/l citric acid, 0.6 - 0.8 amp/cm² current density and 18 - 22°C inside the collodion bag. The investigations performed yielded the following results: At a content of 11% Mn, independent of the chromium content, the steel contains in its structure austenite as well as ferrite. It is not possible to convert the steel into the austenitic state by heat treatment. Steel with 16 - 22% Mn and 8 - 10% Cr has a $\gamma + \epsilon$ -structure at temperatures below 140 - 210°C and an austenitic structure at a temperature over 210°C. The presence of the ϵ -phase was not observed in steel with 27% Mn. In steels with 13 and 17% Cr, independent of the manganese content, the structure is composed of ferrite and austenite after quench-hardening at a temperature over 900°C. The amount of ferrite in the steel group with 17% Cr is considerably higher than

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The Effect of Chromium and Manganese on Phase Transformations of Chrome-Manganese Steels

that of steels with 13% Cr. After heating to 600 - 900°C, the ferrite is decomposed and the δ-phase is formed (except X13Г11 (Kh13G11) and X17Г11 (Kh17GU)⁴ steels). Steels with 17 and 13% Cr contain carbide of the $M_{23}C_6$ type which may be expressed by the formula (Fe, Mn, Cr)₂₃C₆. There are 5 tables, 2 figures and 11 references, 6 Soviet, 2 English and 3 German.

ASSOCIATION: Institut metallurgii AN SSSR (Institute of Metallurgy AS USSR)
Gornyy otdel AN UzSSR (Mining Department of AS UzbekSSR)

SUBMITTED: December 23, 1959

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ZUDIN, I.F.; BANNYKH, O.A.

Effect of chromium, molybdenum and tungsten on the time and
temperature dependence of the hot hardness of ferrite. Issl.po
zharopr.splav. 4:266-272 '59. (MIRA 13:5)
(Iron alloys--Thermal properties) (Ferrite)

BANNYKH, O.A.; ZUDIN, I.F.

Heat-resistance of ferrite in complex alloy with chromium,
vanadium, tungsten, molybdenum. Issl.po sharopr.splav. 4:

273-279 '59.

(MIRA 13:5)

(Heat-resistant alloys) (Ferrite)

PLANE I BOOK EXPIRATION 807/2559

Abdumir, nauk SSSR. Institut metallurgii. Mashiny sovot po problema sharo-prochnykh splavov

Исследования по шаропрочным сплавам, т. 5 (Investigations of Heat-Resistant Alloys, Vol 5) Moscow, Izd-vo AN SSSR, 1979. 427 p. Errata slip inserted. 5,000 copies printed.

Ed. of Publishing House: V.A. Kiselev; Tech. Ed.: I.P. Kuritsin; Editorial Board: I.P. Kuritsin, Academician, G.M. Kurtyumov, Academician, N.Y. Agayev, I.M. Pavlov, and I.P. Sedis, Candidates of Technical Sciences.

NOTE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

CONTENTS: This book, consisting of a number of papers, deals with the properties of heat-resisting metals and alloys. Most of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The effects of various elements such as Cr, Mo, and W on the heat-resisting properties of various alloys are studied. Permeability and sorbability of certain metals as related to the thermal conditions of the object of study are described. The problems of hydrogen embrittlement, the effect of the composition of ceramic coatings on metal surfaces by means of diffusion electrochromes are examined. One paper describes the apparatus and methods used for growing single crystals of metals. Iron-base metals are critically examined and evaluated. The results are given of studies of interatomic bonds and the behavior of atoms in metals. Tests of turbine and compressor blades are described. No personalizations are mentioned. References accompany most of the articles.

Lankovskiy, E.A., B.M. Klyuyev, and E.L. Gerasimova. XI 7% Austenitic Steel 19

Rimnitskiy, P.P., G.A. Shvachkova, G.Ya. Koshchenko, M.K. Kamzin, and B.K. Kozlovskiy. XI 6% and XI 5% Heat-Resistant Chromium-Nickel-Titanium Steels 25

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Samoylov, G.A., and I.P. Radin. The Effect of Complex Alloying with Vanadium, Chromium, and Tungsten on the Kinetics of Martensite Changes in the Annealing of Cold-rolled Ferrite 63

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Lerdin, B.B., B.M. Pirnik, V.S. Kulygin, and B.K. Lyubimov. Structure and Properties of Austenitic Alloys under the Long-Time Action of High Temperature 90

Chernomir, P.P., V.B. Bolshakov, and N.I. Mill'. The Effect of Hydrogen on Creep Strength of Certain Steels 96

Lagutskiy, I.P., and Ya.K. Sviridenko. Creep Strength of Steels Superheating Pipes of Austenitic Steel in a State of Complex Stress 107

Kabanov, I.M., and A.L. Burzov. Effect of Temperature Variations on Creep Strength of XI 6% Steel 115

Yakovlev, M.I., V.A. Yatskov, and S.A. Evrosimov. Study of Hydrogen Embrittlement of Low-carbon Steels 119

Yermakov, V.S. Artificial Aging of the EN17 Alloy under Cyclic Loads 126

Polunin, S.I., and V.A. Pavlov. Study of Fine Structures of Aluminum-Magnesium and Commercially Available Aluminums 131

Buzov, A.V. Regularities of the Thermodynamic Change in Austenite and the Problem of the Development of New Alloys 137

Yakovlev, E.A., E.K. Maritska, and A.L. Burzov. Study of the Endurance Limit of Metals by Means of Registering the Fatigue Curve 145

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FRASE I BOOK EXPLANATION

SOV/3355

Академия наук СССР, Институт металлургии. Машиный совет по проблеме шаропрочных сплавов

Известия по шаропрочным сплавам, т. IV (Studies on Heat-Resistant Alloys, vol. 4), Moscow, Izd-vo AN SSSR, 1959. 400 p. Errata slip inserted. 2,200 copies printed.

Ed. of Publishing House: V. A. Klimov; Tech. Ed.: A. P. Quers; Editorial Board: I. P. Bardin, Academician; G. V. Kurdymov, Academician; K. V. Iegorov; Corresponding Member, USSR Academy of Sciences; I. A. Odintsov; I. M. Pavlov, and I. P. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgists concerned with the structural metallurgy of alloys.

COVERAGE: This is a collection of specialized studies of various problems in the structural metallurgy of heat-resistant alloys. Some are concerned with theoretical principles, some with descriptions of measuring equipment and methods, others with properties of specific materials. Various phenomena occurring under specified conditions are studied and reported on. For details, see Table of Contents. The articles are accompanied by a number of references, both Soviet and non-Soviet.

Studies (Cont.)

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Zakharova, M. I., M. E. Ignatova, L. E. Semenov, and M. A. Shchegoleva. Investigation of Pulse Transformations in Iron-Chromium and Iron-Chromium Alloys

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Zudin, I. P., and G. A. Barmuth. Effect of Chromium, Molybdenum, and Vanadium on the Time and Temperature Dependence of the Recrystallization of Ferrite

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18(3); 18(5); 18(7)

PHASE I BOOK EXPLOITATION

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Gudtsov, Nikolay Timofeyevich; Oleg Aleksandrovich Bannykh; and Ivan Feofanovich Zudin

K voprosu o legirovanii teploustoychivoy stali na osnove α -zheleza (The Problem of Alloying α -Iron Base Heat-Resistant Steel), Moscow, AN SSSR, 1959. 66 p. Errata slip inserted. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii.

Resp. Ed.: I. A. Odintsov, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: P. F. Zolotov; Tech. Ed.: Yu. V. Rykina.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The book deals with methods of increasing creep resistance of steel at elevated temperatures. The authors discuss high-temperature properties of ferrite alloys, the effect of various alloying elements, and stabilization of the carbide phase. Part of the material is based on the results of investigations conducted at the Laboratory of Metal Working of the Metallurgical Institute of the Academy of Sciences, USSR. No personalities are mentioned. There are 45 references, of which 22 are Soviet, 19 English, 3 German, and 1 is English.

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The Problem of Alloying (Cont.)

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AVAILABLE: Library of Congress (TW700.08)

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VK/mfd
4-26-60

AUTHORS: SOV/129-59-6-6/15
Prosvirin, V.I., Doctor of Technical Sciences, Zudin, I.F.,
Candidate of Technical Sciences, and Myasoyedov, A.N.,
Engineer

TITLE: Diffusion Metallic Cementation in Aerosols (Diffuzionnaya metallotsementatsiya v aerolyakh)

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1959, Nr 6, pp 24 - 30 and 35 - 38 (USSR)

ABSTRACT: The here described method of diffusion metallic cementation in aerosols, for which an "Author's Certificate" was issued in 1950, permits surface saturation of steel with various metals (aluminium, chromium, manganese, etc.) in gases containing suspended solid-phase particles. This can be effected by means of equipment, a diagrammatic sketch of which is shown in Figure 1, p 25. After heating in a furnace, the component is quickly charged into a retort and a dosing apparatus is put into operation which contains double or treble the required feed rate of the mixture (during the first 10 to 15 min of heating) so as to achieve rapid filling of the retort with the reaction products of the mixture in order to prevent oxidation of the component. Every 1 to 2 min the dosing apparatus feeds

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Diffusion Metallic Cementation in Aerosols

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working mixture into the retort in small portions. A suitable substance for alitising is a mixture of fine aluminium powder and ammonium chloride. A part of the aluminium powder will be suspended in the gaseous phase, forming aerosols. At elevated temperatures the ammonium chloride evaporates and decomposes, forming hydrogen chloride, nitrogen and hydrogen. Under conditions of low-temperature heating, from 300 - 400 °C, the reaction proceeds with the formation of ammonia and hydrogen chloride. The hydrogen chloride is the basic gas which participates in the subsequent reactions of chlorination of the metals. The chemical reactions during chlorination were investigated by means of a test rig, as shown in Figure 2. The kinetics of chlorination of Al, Cr, Mn, Ti, Mo, Fe and Ni, in a hydrogen chloride atmosphere at 700, 900 and 1 100 °C, were investigated on the basis of the changes in the volume of the reaction products. The results, for durations of up to 90 min, are graphed in Figure 4. The obtained results are discussed in some detail. Experiments are also described which have been

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Diffusion Metallic Cementation in Aerosols

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made on the diffusion of aluminium and chromium from the gaseous phase. Although metallic powder was present in a suspended state, special experiments show that the diffusion activity of the medium is predominantly influenced by the vapour phase. In the experiments, the gaseous medium formed as a result of heating of the active mixture consisting of aluminium, aluminium chloride and sodium chloride, which was placed into a porcelain boat; 0.25 g sodium chloride was added for the purpose of stabilising the activity of the forming gaseous products. The low-carbon steel plates (15x10x2 mm) and wire of 0.7 mm were placed above the boat, not in contact with the mixture. The boat with the steel specimens was then charged into a porcelain tube and placed into a cold furnace. Before heating up, the tube was flushed with pure nitrogen for the purpose of ejecting air oxygen. In all the experiments the heating up to a temperature of 950 °C lasted for about 30 min, which temperature was held for 2 hours. Following that, the specimens were cooled in the furnace for a duration of 10 min after each experiment; the aluminium saturation of the wire, the microstructure

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Diffusion Metallic Cementation in Aerosols

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and the heat-resistance of the specimen at 900 °C (for 50 hours) and also the quantity of mixture carried away from the boat as a result of vapour formation were determined. The results of these experiments are entered in Table 2. The heat resistance corresponded to the quantity of absorbed aluminium - the higher the aluminium absorption, the higher was the heat resistance. Experiments with addition to the charge of a mixture consisting of NaCl, Al and AlCl₃ showed that it is possible to alitise without introducing into the mixture ammonium chloride or aluminium chloride. The results of chromatizing experiments with an active mixture consisting of chromium, sodium chloride and aluminium chloride are entered in Table 4. In the last part of the paper, the authors discuss the factors which influence the metallic cementation in aerosols. For alitizing, they recommend an active mixture consisting of aluminium powder, sodium chloride and ammonium chloride with the weight ratios 4:2:1. Experiments have shown that forced circulation must be applied to achieve satisfactory alitising. The results obtained in alitizing experiments

Card4/6

Diffusion Metallic Cementation in Aerosols

SOV/129-59-6-6/15

with iron and steel specimens are entered in Table 5. In Figure 5, the heat resistance at 900 °C is graphed for iron alitized at 950 °C for durations of 2 hours and 4 hours. In Figure 6, the influence of the alitizing temperature, for an alitizing duration of 2 hours, and of the duration of the alitizing, for an alitizing temperature of 950 °C, is graphed. Interesting results were obtained in experiments relating to simultaneous saturation of steel strips with Al and Cr; these and also results obtained with simultaneous saturation of steel with Al and Mn are entered in Table 6. In Figure 7, the distribution as a function of the depth is graphed of Al and Cr in the diffusion layer of austenitic steel after Al-chromation in aerosols at 1 050 °C for 6 hours. In Figure 8, the distribution is graphed of Mn in the diffusion layer of austenitic steels after simultaneous saturation with Mn and Al by diffusion for 6 hours at 950 and 1 050 °C, respectively.

Card5/6

Diffusion Metallic Cementation in Aerosols SOV/129-59-6-6/15
There are 8 figures and 6 tables.

ASSOCIATION: TsNIITMASH

Card 6/6

GUDTSOV, N/T. [deceased]; ZUDIN, I.P.; BANNYKH, O.A.

Some problems of alloying heat-resistant pearlitic steel. Issl. po
zharopr. splav. 3:23-33 '58. (MIRA 11:11)
(Steel alloys) (Heat-resistant alloys)

BANNYKH, O.A.; ZUDIN, I.F.

Effect of chromium on the durability of chromium-molybdenum steel.
Issl. po zharopr. splav. 3:384-387 '58. (MIRA 11:11)
(Chromium-molybdenum steel) (Metals at high temperature)

ZUDIN, I. F., and PROSVIRIN, V. I.

Povyshenie zharoupornosti zhelezouglerodistykh splavov alitirovaniem.
Moskva, Mashgiz, 1944. 63 p. illus.

Bibliography: p. 63-~~64~~7.

Increasing the resistance to heat of iron carbide alloys by coating with
aluminum.

DIC: TS213.P7

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

GUDTSOV, Nikolay Timofeyevich; BANNYKH, Oleg Aleksandrovich; ZUDIN,
Ivan Feofanovich; ODING, I.A., otv.red.; ZOLOTOV, P.F., red.
Izd-va; RYLINA, R.V., tekhn.red.

[Alloying heat-resistant α -iron base steel] K voprosu o
legirovanii teploustoichivoi stali na osnovu α -zheleza.
Moskva, Izd-vo Akad.nauk SSSR, 1959. 66 p. (MIRA 12:10)

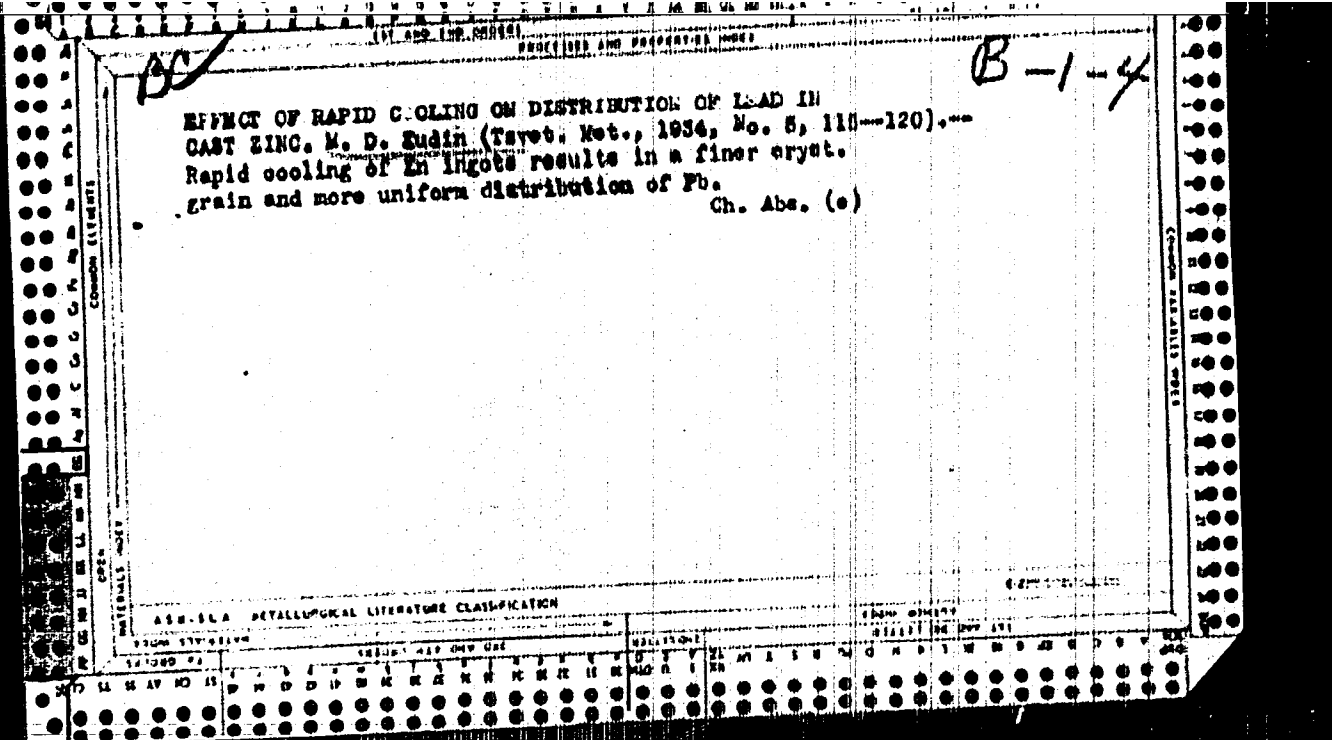
1. Chlen-korrespondent AN SSSR (for Oding).
(Heat-resistant alloys--Metallurgy)

CA
9

Causes of wavy surface of polygraphic zinc. M. J. Zudin. *Levaniye Metal*, 1940, No. 5-6, 112-3. Waviness of polished surfaces of autotype plates were studied and the results indicated the following causes: (1) high Pb content and its non-uniform distribution, (2) inclusions of dross and shrinkage cavities and (3) casting seams. Pb causes waviness when present in amts. over 1%. Liquation can lower the Pb content only to 0.83%. The following recommendations are made: (1) Use Zn with the Pb content below 1.0%. (2) To reduce casting defects cast into vertical water-cooled molds or horizontal because molds. R. N. Daniloff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CLASSIFICATION	NUMERICAL INDEX
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1000 100000	1000000000
2000 200000	2000000000
3000 300000	3000000000
4000 400000	4000000000
5000 500000	5000000000
6000 600000	6000000000
7000 700000	7000000000
8000 800000	8000000000
9000 900000	9000000000



117 APP. 126. 450828
PROPERTIES AND PROPERTIES INDEX

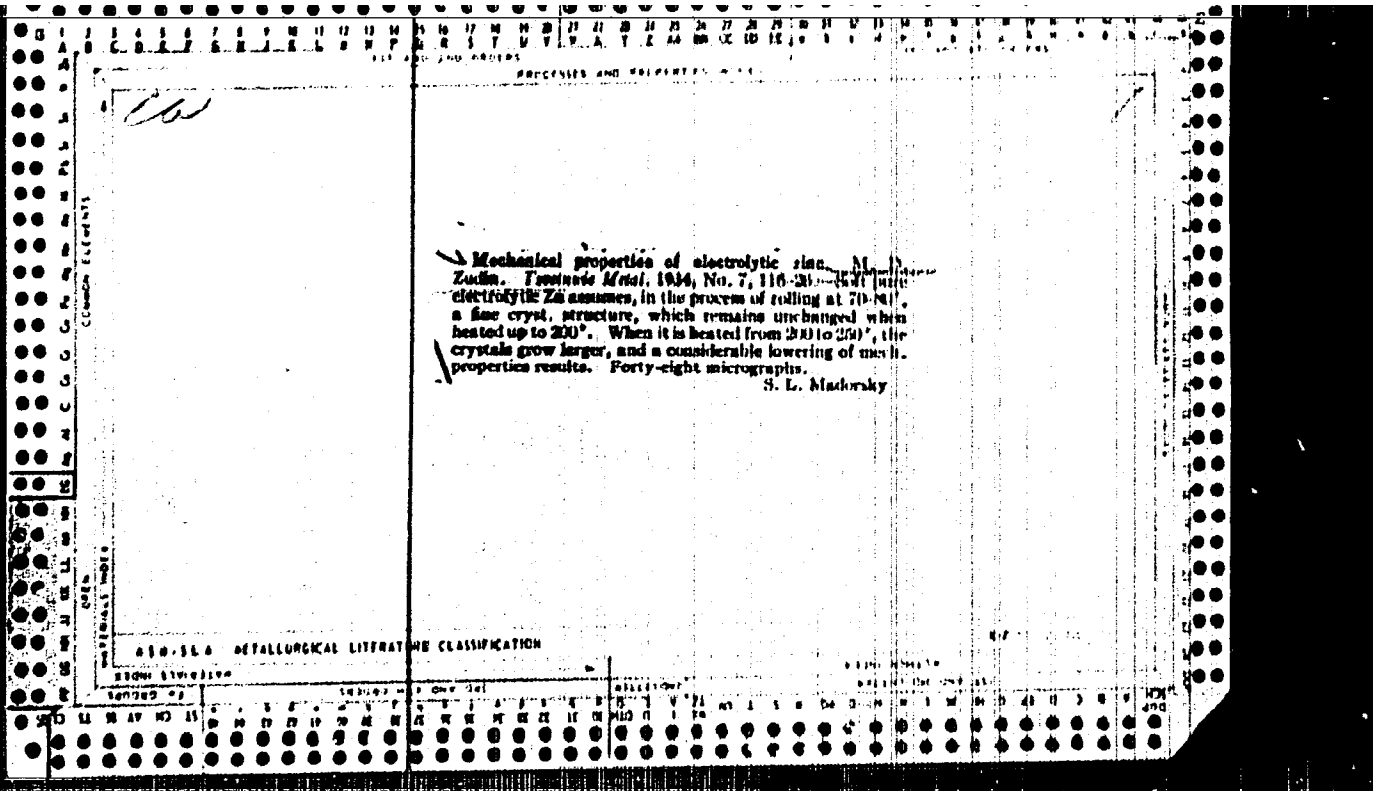
B-I-6

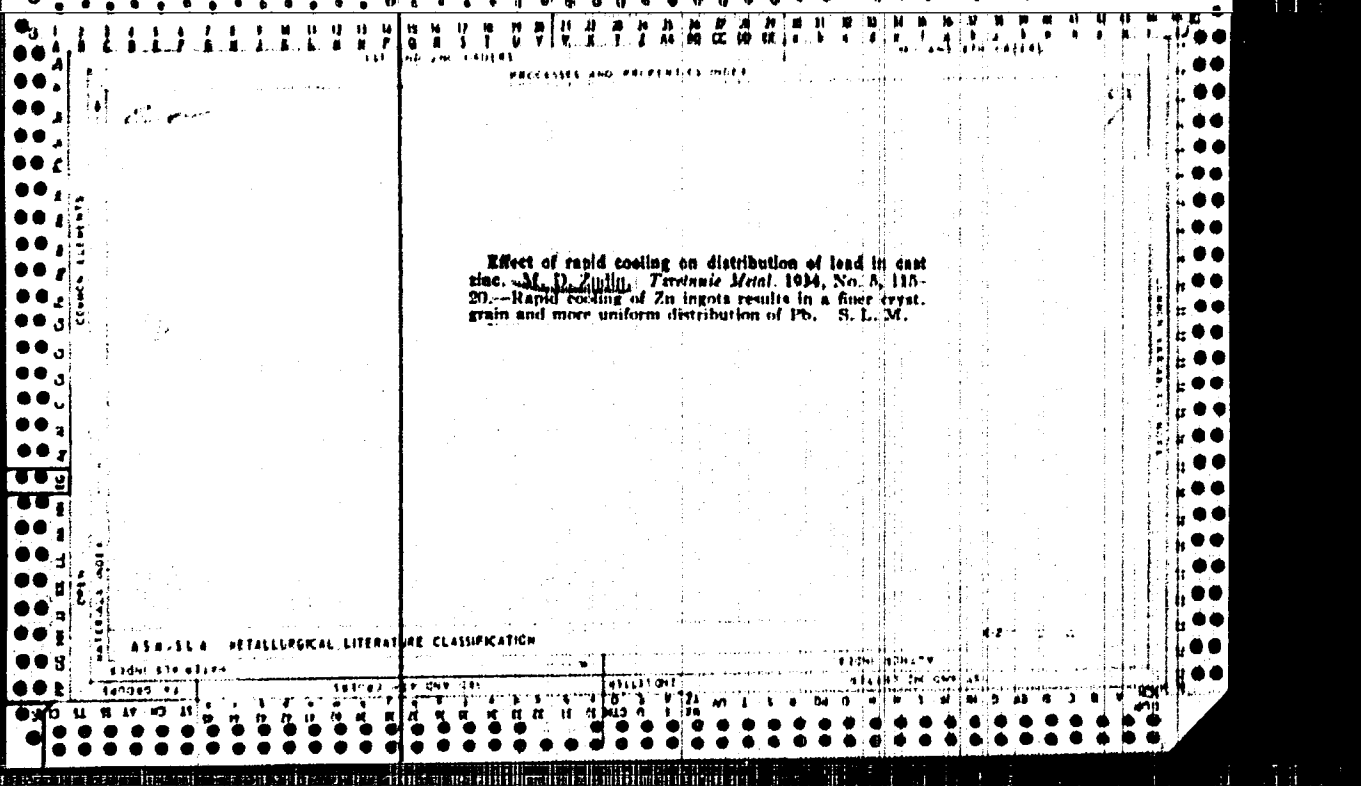
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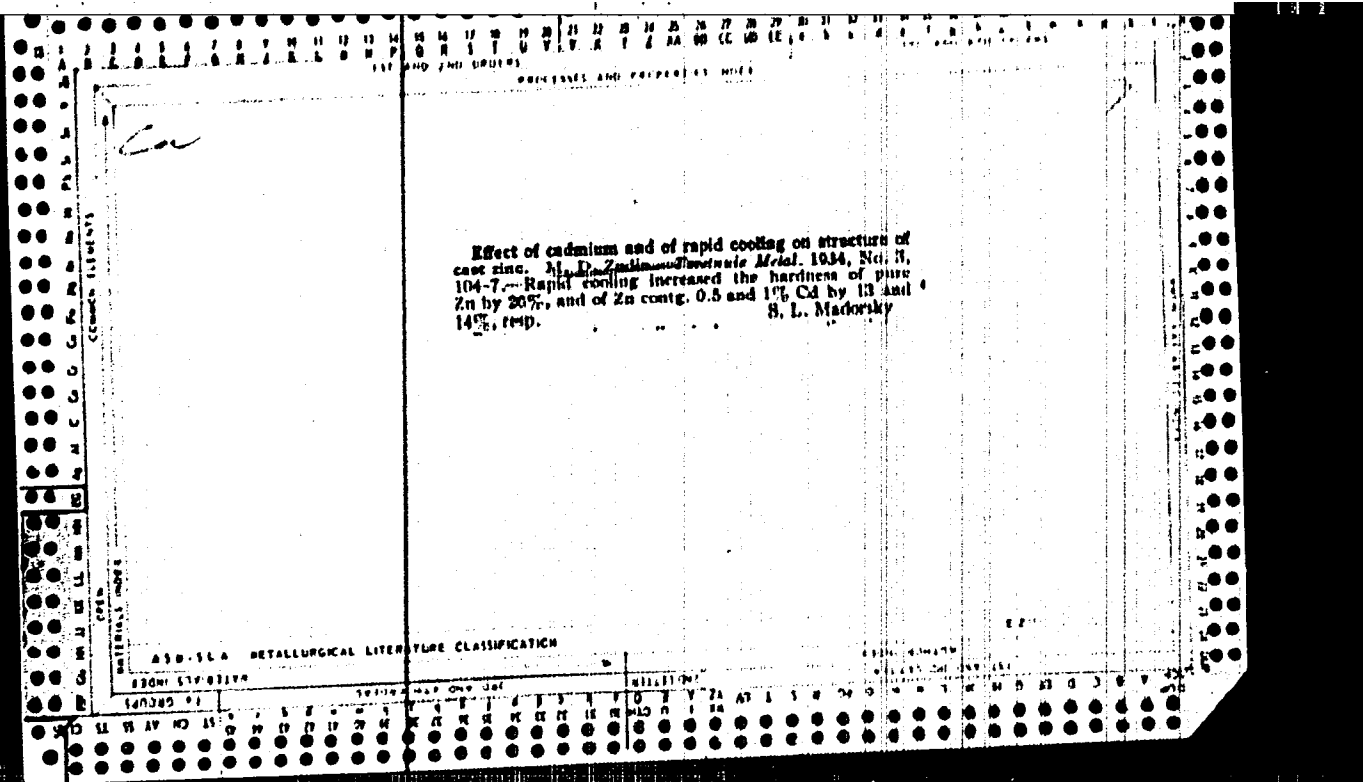
Mechanical properties of electrolytic zinc. M. D. Zener (Trans. Met., 1934, No. 7, 116-118).--Pure electrolytic Zn assumes a fine-cryst. structure when rolled at 70-80°. This is retained up to 270°. At 300-350° the crystals grow and the mechanical strength is reduced. Ch. Ann. (c)

ASB-ISA METALLURGICAL LITERATURE CLASSIFICATION

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	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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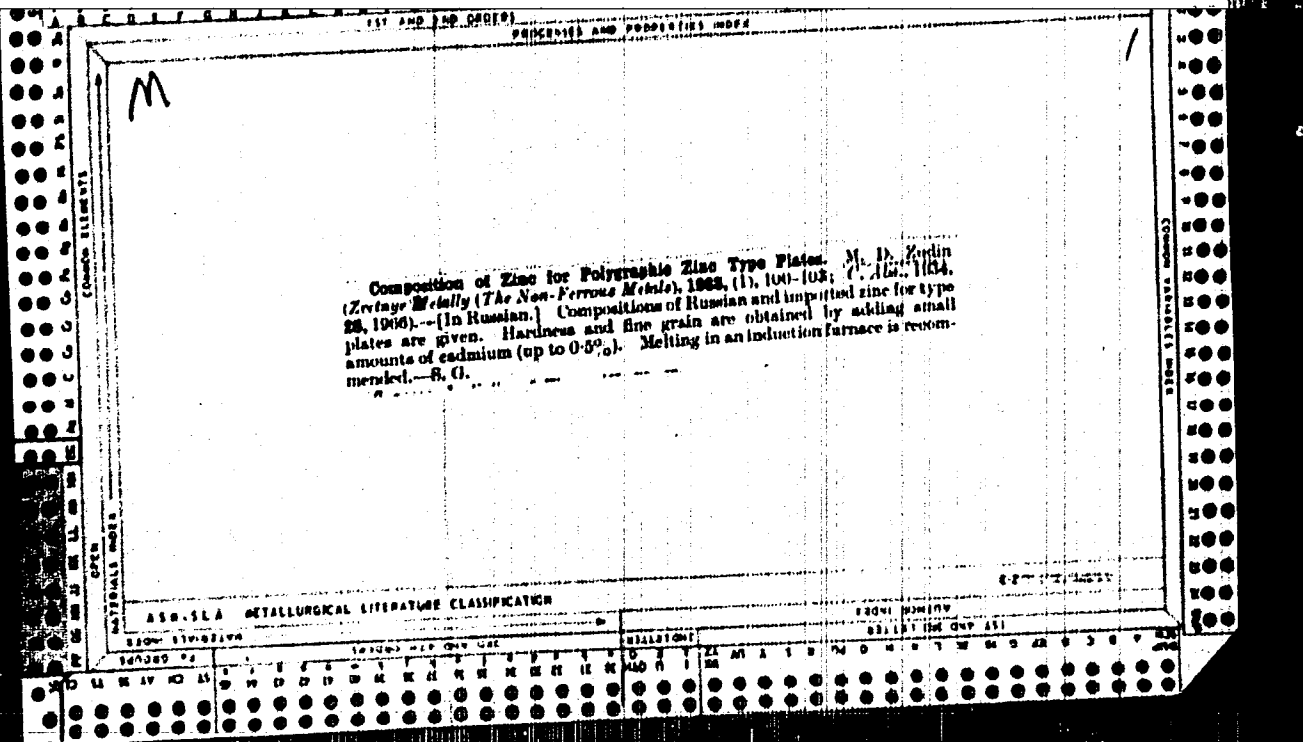
PROPERTIES AND PROPERTIES INDEX

22

***The Mechanical Properties of Zinc as Produced by the Factory Uralah. M. D. Zudin (Zvez. Metals (Non-ferrous Metals), 1937, (12), 38-41; CAem. Zvez., 1938, 100, (11), 765).-- [In Russian.] The mechanical properties of zinc are improved by a content of lead (0.73-1.88%), iron (0.007-0.038%), cadmium (<0.25%), and copper (<0.12%). The fatigue strength is slightly reduced by heating to 100°-130° C.; heating to higher temperatures has no further effect. Rolling has the same effect as on electrolytic zinc.-- D. R. K.**

A 50-51A METALLURGICAL LITERATURE CLASSIFICATION

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	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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PROCESSES AND PROPERTIES WIDE

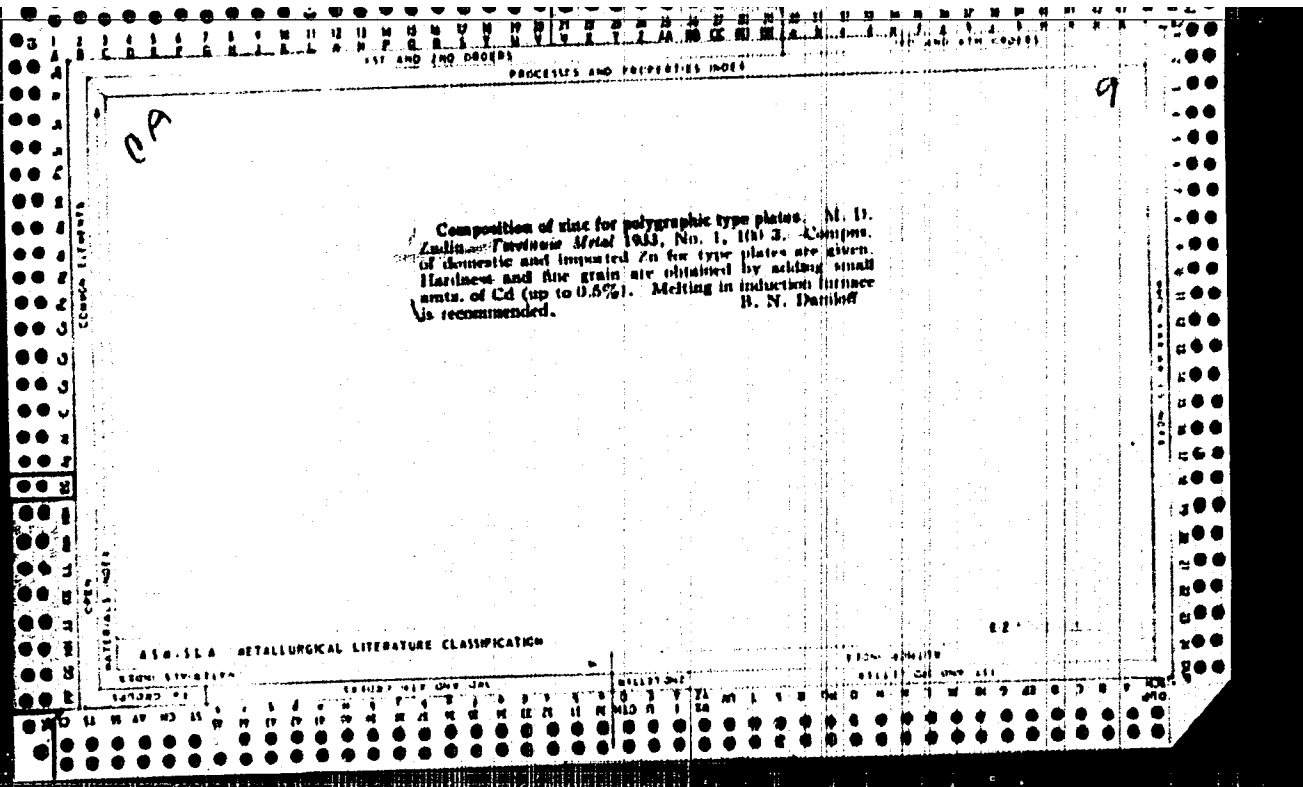
7

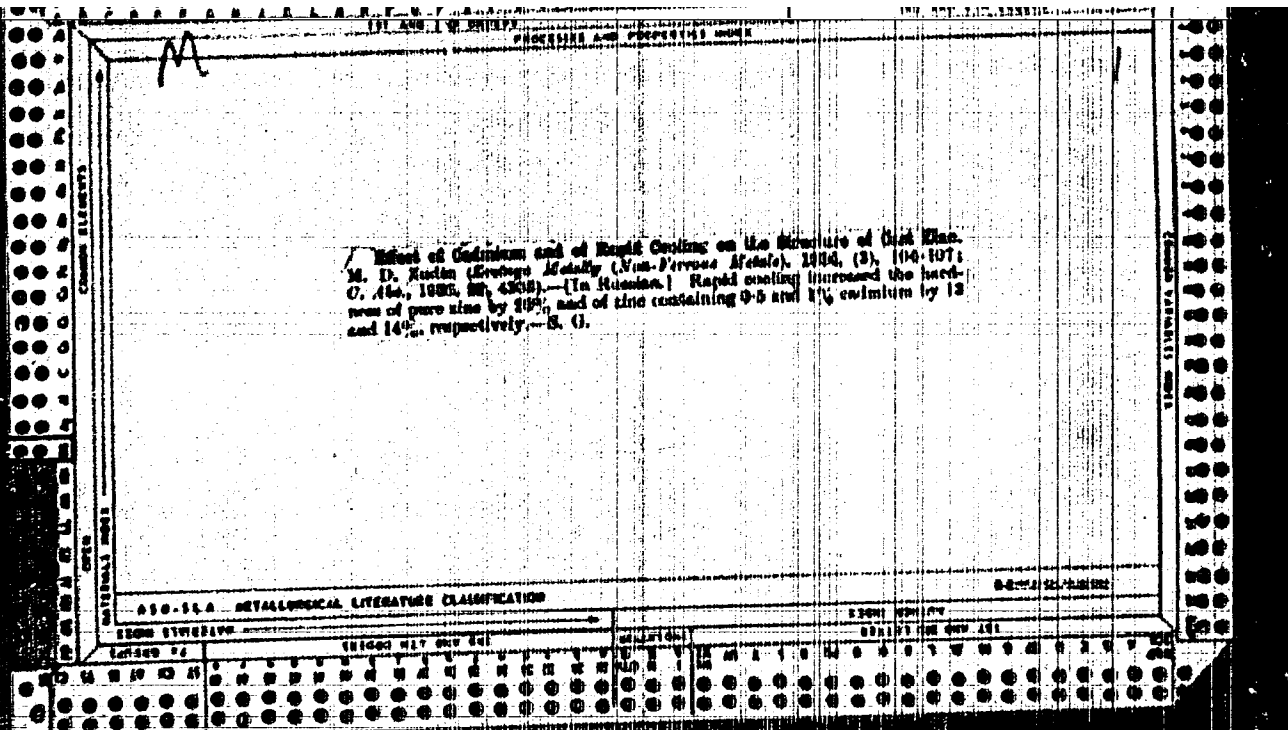
W

Composition of zinc for polygraphic type plates. M. D. Zudin. *Travnic Metal* 1933, No. 1, 100 3. Compos. of domestic and imported Zn for type plates are given. Hardness and fine grain are obtained by adding small amounts of Cd (up to 0.5%). Melting in induction furnace is recommended. H. N. Dantlov

METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES WIDE





ZUDIN, N. A. Cand Agr Sci -- "Growth of pines and birches under conditions
of ^{the} Svezhiy pine forest of the Mariyskaya ASSR and the effect of pine and birch
plant ^{ing} upon ~~the~~ physical properties of the soil." Voronezh, 1960 (Min of
Higher and Secondary Specialized Education RSPSR, Voronezh Forestry Engineering
Inst). (KL, 1-61, 201)

SMIRNOV, V.N., prof., doktor sel'skokhoz.nauk; ZUDIN, N.A., otv.red.

[Methods of the field investigation of forest soils for the purpose of forest management; manual on soil investigations in forests for forestry students and specialists of forest management and planning] Metodika provedeniia polevykh pochvennykh issledovani v lesu dlia lesokhoziaistvennykh tselei; rukovodstvo po pochvennym issledovaniam v lesu dlia studentov lesokhoziaistvennykh fakul'tetov lesotekhnicheskikh i lesokhoziaistvennykh vuzov, spetsialistov lesnogo khoziaistva i lesoproektov. Ioshkar-Ola, Povolzhskii lesotekhn.in-t im. M.Gor'kogo, 1958. 55 p. (MIRA 14:2)

(Forest soils)

COUNTRY : USSR
CATEGORY : Forestry, Forest Biology and Typology.
ASS. JOUR. : F. Biol., No. 2, 1950, NO. 6157
AUTHOR : Zudin, N.A.
1950.
TITLE : Povolzhskiy Forest Engineering Institute
Pine and Birch Growth in the Fresh Pine
woods of the Mari ASSR and the Effect of
Pine-Birch Stands on Physical Soil Properties
REG. PUB. : Sr. tr. Povolzhsk. Lesotekhn. in-t, 1957
(1958), No. 32, 203-218.
ABSTRACT : Soil conditions and pine and birch growth
were studied at Kuyarskiy and Kokshayskiy
Lesnozes and the Experimental Training
Leskhon of the Povolzhskiy Forest Engineer-
ing Institute in stands of natural seed
derivation (composition 10 P, 7P 3B, 5P 5B,
3P 7B and 10B) 15-20, 25-30 and 75-80 years
old of II locality class with a canopy of
0.8-0.9. It was determined that the greatest
supply of litter was found in pine stands

CARD: 1/3

Country :
CATEGORY :

ABS. JOUR. : RZbiol., No. 2, 1959, No. 6137

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : (18.0 t/ha) less in birch stands (16.7 t/ha) and still less in mixed pine-birch stands (15.4 t/ha). The participation of birch in the mixed pine-birch stands had a favorable effect on soil fertility, especially improving the biological activity of the soil, on the conditions of forest litter depositing, physical properties, facilitating humus accumulation, reducing soil acidity and increasing the accumulation of winter precipitation. The highest moisture absorption by

CARD:

2/5

COUNTRY :
CATEGORY :

ISS. JOUR. : RZBiol., No. 2, 1950, No. 6137

AUTHOR :
INST. :
TITLE :

ORIG. Pgs. :

ABSTRACT : litter was seen in birch stands. The soil under birch thawed 5-7 days earlier than under pine. The general trunk wood supply was greater in mixed stands with 7P 3B composition than in pure pine stands. Mixed pine-birch stands produce better liberation of the small branches on pine trees.--V.I. Klimov

CARD: 3/3

ACCESSION NR: AR4041546

S/0137/64/000/004/I055/I055

SOURCE: Ref. zh. Metallurgiya, Abs. 41337

AUTHOR: Bratenko, V. N.; Zudin, N. F.; Prokoshkin, D. A.

TITLE: Influence of alloying on hardening of chromium-manganese austenitic steels

CITED SOURCE: Sb. Issled. po vy^{sokoprochn.} splavam nitevidn. kristallam. M., AN SSSR, 1963, 178-183

TOPIC TAGS: alloying, hardening, chromium steel, manganese steel, austenitic steel

TRANSLATION: Investigates influence of alloying of Ti, V, Mo, and W on strength and plasticity of Fe-Cr-Mn steel (18% MN, 12% Cr and 0.2% N) in interval 20-700°. With increase of content of V, σ_s increases at room temperature and plasticity worsens. Introduction of W and Mo little affects indication of the characteristic.

Card 1/2

ACCESSION NR: AR4041546

At increased temperatures difference in action of alloy elements becomes more noticeable. In alloys with T, V, and Mo there is clearly observed a slowing of the drop in strength with increase of temperature, for V and Mo this occurs at 600°, in an alloy with Ti, in the interval 500-520°. For steel with W this effect is less significant. Mo and W with increase of temperature decrease the ratio σ_s/σ_0 which increases somewhat at 600° and above and lies within 0.30-0.4. For steel with Ti this magnitude is somewhat higher; with increase of temperature it also at first decreases, and then increases (at 600-700°). Additions of V still more increase $|\sigma_s/\sigma_0|$ drop of σ_s/σ_0 is observed only in the interval 600-650°, and at 700° this magnitude attains 0.9. True ultimate strength σ_s in all cases exceeds σ_0 . This is most clearly expressed for alloys, containing Mo and W, for which ratio σ_s/σ_0 at 20-600° did not exceed 0.4-0.5, but at 700° attained 0.7. For an alloy with 0.65% V with increase of temperature σ_s/σ_0 increases temperature gradually from 0.6 to 0.9. There is stated the assumption that this phenomenon is connected with action of the mechanism of carbide-formation, occurring directly under the influence of load. Bibliography: 8 references.

SUB CODE: MM

ENCL: 00

Card 2/2

BARKHASH, V.A.; SMIRNOVA, G.P.; ZUDIN, S.N.; MACHINSKAYA, I.V.

Some properties of enol-acetates Part 9: Interaction of cyclohexanone
 α -bromo-enol-acetate with sodium. Zhur.ob.khim. 34 no.1:303-307 Ja
'64. (MIRA 17:3)

1. Moskovskiy khimiko-tehnologicheskii institut imeni D.I.Mendele-
yeva.

ZUDIN, V.

"First Results of a General Inspection of Equipment at the Fraxer Cutting Tool, Plant
imeni Kalinin" Stanki i Instrument, 10, No. 3, 1959, Engineer.

Report U-1505, 4 Oct. 1951.

ZUDIN, Vasilii Fedorovich; ZARETSKAYA, N.V., red.; POLESIN, L.Ya.,
red.

[Preventing and investigating offenses; according to data
on safety violations in coal mines] Predotvrashchenie i
rassledovanie prestuplenii; po materialam narushenii pra-
vil bezopasnosti v ugol'nykh shakhtakh. Saratov, Izd-vo
Saratovskogo univ., 1963. 314 p. (MIRA 17:12)

ZUDIN, V.M.; BABARYKIN, N.N.; GALATONOV, A.L.; KULIKOV, I.S.

Effect of magnesium on the desulfurizing properties of blast furnace
slags. Stal' 21 no.5:385-391 My '61. (MIRA 14:5)

1. Magnitogorskiy kombinat i Institut metallurgii AN SSSR.
(Desulfuration)

BARDIN, I.P., akad. [deceased]; KULIKOV, I.S.; ZUDIN, V.M.; TSYLEV, L.H.;
SOKOLOV, G.A.; GALATONOV, A.L.; BABARYKIN, H.N.; GUL'TYAY, I.I.

Making low-sulfur cast iron at the Magnitogorsk Combine. Stal' 20
no.10:865-869 0 '60. (MIRA 13:9)
(Magnitogorsk--Blast furnaces) (Cast iron--Metallurgy)

ZUDIN, V.M.

Increase the speed of design and research work. Mekh.i
avtom.proizv. 14 no.9:7-8 S '60. (MIRA 13:9)

1. Direktor Magnitogorskogo metallurgicheskogo kombinata.
(Magnitogorsk—Steelworks)

ZUDIN, V.M.; PATRUSHEVA, N.N.; VALPITER, E.V.; VEREMEY, I.I.

Separate feed of fuel oil. Metallurg 7 no.7:23 JI '62.
(MIRA 15:7)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces--Fuel systems)

18.3200

75040
SOV/133-59-10-1/39

AUTHORS: Zudin, V. M., Ganich, A. A., Sokolovskiy, G. M.
(Engineers)

TITLE: Experience in Construction and Operation of Belt
Conveyor System for Burden Supply to Blast Furnace
Skips

PERIODICAL: Stal', 1959, Nr 10, pp 865-868 (USSR)

ABSTRACT: In July 1958, a new belt conveyor system equipped
with automatic collection and weighing unit was
introduced in a blast furnace of Magnitogorsk
Combine (Magnitogorskiy kombinat). Building and
installation took 40 days. Sinter is charged at
600 to 700° C. Productivity of feeder: 70 to
140 t/hr, depending on the angle of the latter.
In the course of operations certain shortcomings
were eliminated by: (1) installing additional rollers
to prevent the sideways slipping of the band; (2)
adding water-cooled sprocket drive bearings; (3)

Card 1/2

Experience in Construction and Operation
of Belt Conveyor System for Burden Supply
to Blast Furnace Skips

75940
SOV/133-59-10-1/3)

changing the type of gate to start the conveyor before it opens, increasing belt width to 900 mm, and prolonging gate opening time to 2.75 sec; (4) providing a minimum 50° angle of taper, for possible work with humid materials at certain times of the year; in the design of the measuring hoppers; (5) providing sinter slide gates with individual drives to start working or reserve lines independent of the sinter line; (6) installing hoods with suction fans over the source of dust to combat air pollution. Oil filter ventilation is planned. Platform conveyor drives are insulated by means of special screens. Working experience has corroborated the possibility of using belt conveyor systems for hot sinter. Reference is made to earlier work by Gadich, A. A., Zarubin, V. F., and Yakovlev, V. G. There are 4 figures; and 1 Soviet reference.

ASSOCIATION: Magnitogorsk Combine (Magnitogorskiy kombinat) and
Magnitogorsk State Institute for the Design and
Planning of Metallurgical Plants (Magnitogorskiy
Gipromez)

Card 2/2

ZUDIN, V.M.; YAKOBSON, A.P.; KOSTIN, I.M.; GALATONOV, A.L.; GAMAYUROV, A.I.;
TSVERLING, A.L.; MALYSHEVA, T.Ya.; SOKOLOV, G.A.; RUDNEVA, A.V.;
TSYLEV, L.M.; GUL'TYAY, I.I.

Effect of the sintering temperature on the mineralogical composition
of sinter and its metallurgical properties. Stal' 23 no.6:481-485
Je '63. (MIRA 16:10)

1. Magnitogorskiy metallurgicheskiy kombinat i Institut metallurgii
im. A.A.Baykova.

ZUDIN, V.M.; SAGAYDAK, I.I.; YAKOBSON, A.P.; BABARYKIN, N.N.; DORMAN, V.G.;
GALATONOV, A.L.; LEKIN, P.V.

Preparation of screened sinter and its use in blast furnace
smelting. Stal' 22 no.8:675-679 Ag '62. (MIRA 15:7)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Sintering)
(Blast furnaces--Equipment and supplies)

S/118/60/000/009/003/009
A161/A026

AUTHOR: Zudin, V.M. Director

TITLE: The Progress of Designing and Research Work Must be Speeded Up

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1960, No. 9, pp. 7-8

TEXT: The Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine) has to become a model plant with comprehensively mechanized and automated work processes, and its output has to increase more than 50% by 1965; 10,892 workers will be released after completed mechanization and automation. Some work to this end has been done during the past year: the sintering plants are fitted with automatic systems; charging is mechanized on one blast furnace; natural gas came into use in open-hearth furnaces and the use of mazout has been stopped and the heating process automated; flame cleaning of metal is coming into use in rolling, as well as automatic measurement, flaw detection and sorting of moving thin sheet metal in rolling process, and more. About 4,500 practical suggestions have been collected after a campaign at the combine. But a great amount of work needs still to be done. The work at Mekhanobr institute, TsPKB Glavproyektmontazhavtomatiki and NIIM of Chelyabinsk Sovnarkhoz on the com-
Card 1/3

S/118/60/000/009/003/009

A161/A026

The Progress of Designing and Research Work Must be Speeded Up

plete automation project of a sintering plant is in good progress. VNIIMETMASH, Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automation and Telemechanics of the AS USSR), TsNIICHERMET, and TsLA are investigating the possibility of automatic control of thickness and width of sheet metal. TsNIKA is preparing the organization of a computing center at the combine; "Giprokoks" is working on mechanization and automation problems at coke ovens. All this work is being done in cooperation with the combine. In general, however, the progress is not satisfactory, and some organizations did not cope with their task, i.e. TsNII CHERMET and NIILITMASH, whose automation-system projects for blast furnaces and recuperators give nothing new, and the new principles of automation for open-heart furnaces are not effective. The designing of the cold rolling shop No. 2 (the "2,500" mill) by Gipromez and the Kramatorsk plant is below modern level; TsKB "Elektroprivod" did not work out satisfactorily mechanization principles of blooming mills and merchant bar mills. Some organizations have declined to do their part of work - as Gipromez and Ministerstvo stroitel'stva RSFSR (Construction Ministry of the RSFSR) to develop the mechanization of repair of soaking pits, or NIILITMASH to develop comprehensive mechanization of foundries. Some research organizations did not even start work, for instance "Stal'proyekt" did not start

Card 2/3

S/118/60/000/009/003/009
A161/A026

The Progress of Designing and Research Work Must be Speeded Up

its investigation of heating furnaces of the merchant and sheet mills to set up the mechanization and automation plan; Institut avtomatiki Gosplana Ukrainskoy SSR (Institute of Automation of the Gosplan of the Ukrainskaya SSR is not developing the planned physico-chemical methods for determining weight, humidity and ash content in moving charge material. In all 170, new instruments and machines have to be designed and manufactured, but only the Khar'kovskiy zavod "KIP" (Khar'kov "KIP" Plant) has completed in due time a device it had to develop - an instrument measuring the consumption of coal slurry. And even this instrument has not yet been delivered. TsLA, NIIAVTOMATIKA, PKTI of Dnepropetrovsk Sovnarkhoz and other organizations are working on the development of new mechanization and automation means, but Laboratoriya komissii po spektroskopii Akademii nauk SSSR (Laboratory of the Commission for Spectroscopy of the AS USSR) does not. It had already in 1959 to complete documentation for instruments determining the basicity of sinter in moving stream. It failed to develop instruments for chemical analysis of liquid steel and slag in melting process, determination of iron content in ore. The Laboratory attempted to pass the work over to other organizations. The NIKIMP is not developing in due time new weighing methods. The author thinks that the organizations must radically speed up their work.

Card 3/3

ASSOCIATION: Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

ZUDIN, V.S.

Role of the kidneys and the spleen in regulating the composition
of the blood. Probl. genet. i perel. krovi 9 no.10:22-26 O 1964.
(MIRA 18:3)

1. Kafedra patologicheskoy fiziologii (zav. - prof. N.A. Dynashits)
Chelyabinskogo meditsinskogo instituta.

DYMSHITS, R.A.; BALDIN, Yu.P.; ZUDIN, V.S.

Humoral function of the spleen. Probl. gemat. i perel. krovi 8 no.7:39-
43 J1 '63. (MIRA 17:10)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. R.A.Dymshits)
Chelyabinskogo meditsinskogo instituta.

ZUDIN, V.S.

Phagocytic activity of leukocytes and absorptive capacity of the reticuloendothelial system after the denervation of the carotid sinuses. Zhur.mikrobiol.epid.i immun. 31 no.11:89-93 N '60. (MIRA 14:6)

1. Iz Chelyabinskogo meditsinskogo instituta.
(PHAGOCYTOSIS) (RETICULO-ENDOTHELIAL SYSTEM)
(CAROTID SINUS--INNERVATION)

ZUDIN, V. S.

Cand Med Sci - (diss) "Role of the carotid sinus in several immunobiological reactions of the organism." Ufa, 1961. 21 pp; (Bashkiria State Medical Inst imeni 15th VLKSM); 30 copies; price not given; (KL, 5-61 sup, 202)

ZUDIN, V.S.

Effect of the functional state of the carotid sinus on the concentration of normal hemolysins and protein fractions in the blood serum. Fiziol., zhur. Ukr. 6 no. 4: 553-559 JI-Ag '60. (MIRA 13:7)

1. Kafedra patologicheskoy fiziologii Chelyabinskogo meditsinskogo instituta.
(CAROTID SINUS) (HEMOLYSIS AND HEMOLYSINS) (BLOOD PROTEINS)

ZUDIN, V.S.
VAYNITSVAIG, P.M.; ZUDIN, V.S. (Chelyabinsk)

Preventing posttransfusion shock from heterogenous blood by simultaneous epinephrine injection. Arkh.pat.17 no.2:69-70 Ap-Je '55. (MLRA 8:10)

1. Iz kafedry patologicheskoy fiziologii (sav.prof.R.A. Dymshits) Chelyabinskogo meditsinskogo instituta (dir.prof. G.D.Obratsov)

(EPINEPHRINE, therapeutic use,

shock prev. in transfusion of heterogenous blood)

(BLOOD TRANSFUSION, complications,

shock prev. epinephrine in transfusion in heterogenous blood)

(SHOCK,

post-transfusion, prev. with epinephrine in transfusion of heterogenous blood)

ZUDIN, V.S. (Chelyabinsk)

Role of the carotid sinus in the regulation of hemolysins and hemagglutinins. Pat. fiziol. i eksp. terap. 3 no.3:74 My-Je '59.
(MIRA 12:7)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. R.A. Dymshits)
Chelyabinskogo meditsinskogo instituta.

(ANTIBODIES,

hemagglutinins & hemolysins, eff. of carotid sinus stimulation (Rus))

(CAROTID SINUS, physiol.

eff. of stimulation of hemagglutinins & hemolysins (Rus))

Z. U. D. / 11, VI 5

BLAGMAN, G.F., professor; DYMSHITS, R.A. , professor; GRACHIVA, N.A.;
ZUDIN, V.S. (Chelyabinsk)

Radioactive iodine for treating thyrotoxicoses. Klin.med. 33
no.6:37-40 Je '55. (MLRA 8:12)

1. Iz kafedry gospital'noy terapii (zav.prof. G.F.Blagman) na
baze 1 dorozhnoy bol'nitsy Yuzhno-Ural'skoy zheleznoy dorogi
i kafedry patologicheskoy fiziologii (zav.prof. R.A.Dynshits)
Chelyabinskogo meditsinskogo instituta.
(IODINE--ISOTOPES-- THERAPEUTIC USE) (THYROID GLAND--DISEASES)

ZUDIN, V.S.

BLAGMAN, G.F., professor; DYMSHITS, R.A., professor; GRACHEVA, N.A.; ZUDIN, V.S.; STRUKOVA, A.P. (Chelyabinsk)

Use of radioiodine in the treatment of thyrotoxicosis [with summary in English, p.124]. Probl.endok. i gorm. 3 no.1:50-56 Ja-F '57. (MLRA 10:6)

1. Iz kafedry gosital'noy terapii (zav. - prof. G.F.Blagnan) na baze 1-y dorozhnoy bol'nitsy Yuzhno-Ural'skoy zheleznoy dorogi i kafedry patologicheskoy fiziologii (zav. - prof. R.A.Dymshits) Chelyabinskogo meditsinskogo instituta (dir. - prof. G.D.Obratsov)

(HYPERTHYROIDISM, therapy,

radioiodine, review (Rus))

(IODINE, radioactive,

ther. of hyperthyroidism, review (Rus))

ZudinA M.A.

ZAKIN, M.M.; ZUDINA, M.A.; TUMASOVA, G.H.; YEL'MAN, A.N.; SHEEMAN, A.Sh.

Clinical and epidemiological characteristics of bacillus carriers
[with summary in French]. Probl.tub. 35 no.4:10-16 '57. (MIRA 10:8)

1. Iz protivotuberkuleznogo dispansera No.11 Shcherbakovskogo rayona
Moskvy (glavnyy vrach G.V.Kotsubey, zam. glavnogo vracha po medi-
tsinskoy chasti M.M.Zakin)

(TUBERCULOSIS

carriers, clin. & epidemiol. characteristics (Rus))

KOTEL'NIKOV, N.M.; ZUDINA, A.A.; MISYURINKO, A.T.; YATCHENKO, M.G., red.;
MARKOVA, S.M., red.

[Area under cultivation and the number of cattle in Khabarovsk Territory; a statistical manual] Posevnye ploshchadi i pogolov'e skota v Khabarovskom krae; statisticheskiy sbornik. Khabarovsk, Khabarovskoe knizhnoe izd-vo, 1958. 167 p. (MIRA 12:12)

1. Khabarovskiy kray. Statisticheskoye upravleniye. 2. Nachal'nik Statisticheskogo upravleniya Khabarovskogo kraya (for Yatchenko).
(Khabarovsk Territory--Agriculture--Statistics)

ZUDINA, A.P.

SILKINA, Ye.Z.; MISYURA, K.R.; KEYNO, H.K.; TYNYANKINA, Ye.V.; SIRIDOVA, A.G.;
ZUDINA, A.A.; MISYURENKO, A.T.; YATCHENKO, H.G., red.;

[Economy of the Khabarovsk Territory; a statistical manual] Narodnoe
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1. Khabarovskiy kray. Statisticheskoye upravleniye. 2. Statisti-
cheskoye upravleniye Khabarovskogo kraya (for all, except Yachenko).
3. Nachal'nik Statisticheskogo upravleniya Khabarovskogo kraya
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(Khabarovsk Territory--Statistics)

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Shol. mat. 5 no.5:21-23 My '59. (MIRA 12:8)
(Lightweight concrete) (Building blocks)

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no.4:65-71 Ap '60. (MIRA 13:9)
(Coal mines and mining) (Wages)

ZUDINA, L.N.

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(Mine management)

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LENIN, Vladimir Il'ich; BEZDNEZHNYKH, P.T., redaktor; ZUDINA, M.F.,
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MALYAREVSKIY, Boris Ivanovich; FEDOSEYEV, Lev Mitrofanovich; ZUDKIN, Sergey
Matveyevich; FIBIKH, V.V., redaktor; VALOV, N.A., redaktor; BEKKER, O.G.,
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[Electrical equipment for wire and sheet-metal product plants]
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270 p. (MIRA 8:10)
(Electric machinery) (Hardware)

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Matveyevich; FIBIKH, V.V., redaktor; VALOV, N.A., redaktor; BAKKER, O.G.,
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[Electrical equipment for wire and sheet-metal product plants]
Elektrooborudovaniye netiznykh zavodov. Moskva Gos. nauchno-tekhnicheskoe izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955.
270 p. (MIRA 8:10)
(Electric machinery) (Hardware)

ACC. NR: AP7012421

SOURCE CODE: UR/0062/66/000/011 2017/2019

AUTHOR: Nesmeyanov, A. N.; Sazonova, V. A.; Zudkova, G. I. Isayeva, L. S.

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

TITLE: Alpha-ferrocenylcarbonium salts

SOURCE: AN SSSR. Izvestiya. Seriya Khimicheskaya, no. 11, 1966, 2017-2019

TOPIC TAGS: hydrolysis, dimethylamine, acetic acid, inorganic salt

SUB CODE: 07

ABSTRACT: The influence of the dimethylamino group, situated in the p-position of the benzene ring bonded to a carbonium carbon upon the stability and reactivity of alpha-ferrocenylphenylcarbonium salts was investigated. Three salts were synthesized from the corresponding carbinols and tetraphenylborosodium in glacial acetic acid. Such salts were more stable than the carbonium salts not containing the dimethylamino group. Hydrolysis of phenylferrocenyl- and diphenylferrocenylcarbonium tetraphenylborates is instantaneous, whereas the corresponding tetraphenylborates containing the dimethylamino group are re-covered unchanged. Other reactions of the salts synthesized were studied: alkylation of dimethylaniline in the p-position; reactions with piperidine,

UDC: 542.91+547.1'3+542.957+546.72
0932 1358

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ACC NR: AP7012421

forming p-dimethylaminophenylferrocenylmethyl- and p-dimethylaminodiphenyl-ferrocenylmethyl- substituted piperidines. Orig. art. has: 1 formula.

[JPRS: 40,422]

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(N) L 4012-66 EWT(d)/ZFI(1)/EWP(v)/EWP(k)/EWP(h)/EWP(1)/EWA(h)/ETC(1) UR/0286/05/000/015/0088/0088

ACCESSION NR: AP5024408

AUTHORS: Popaniopulo, G. K.; Zudova, L. A.; Shenderovich, I. M.; Volkova, O. A.

TITLE: Attachment for water level recorders. Class 42, No. 173430

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 88

TOPIC TAGS: liquid level instrument, remote control system

ABSTRACT: This Author Certificate presents an attachment for water level recorders, containing an electric current source, a device for obtaining heteropolar electric signals obtained as a result of a change in the monitored level, and a double lead communication line. To increase the reliability of remote control, the limiting resistance of the electric current source is shunted by a normally open contact unit which closes at a predetermined level (see Fig. 1 on the Enclosure). Orig. art. has: 1 diagram.

ASSOCIATION: Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya (Scientific Research Institute of Hydrometeorological Instrument Manufacturing)

Card 1/3

UDC: 681.128.6:621-519

L 4012-66
ACCESSION NR: AP50244:08

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ENCL: 01

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 2/3

L 4012-66
ACCESSION NR: AP5024408

ENCLOSURE: 01

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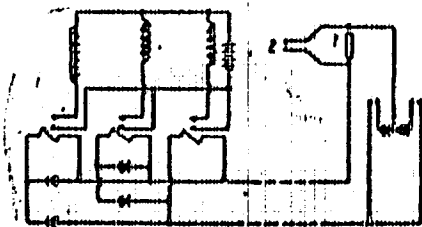


Fig. 1. resistance of electric current source; 2- normally open contact unit

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