

ZILBERG, J.

ZILBERG, J. Aluminum bimetallic bearing linings for D-35 and D-54 motors.  
Tr. from the Russian. p. 67.

Vol. 7, no. 3, Feb. 1957  
MACHANISACE ZEMEDELSTVI  
AGRICULTURE  
Czechoslovakia

So: East European Accession, Vol. 6, No. 5, May 1957

ZIL'BERG, L. A.

"The Problem of the Determination of Dimethyl Anilins in the Atmosphere of Industrial Premises," by L. A. Zil'berg, Senior Scientific Associate, Riga Laboratory for the Protection of Labor, All-Union Central Council of Trade Unions, Gigiyena i Sanitariya, Vol 22, No 6, Jun 57, pp 83-84

A new method for the determination of dimethyl aniline, a dye widely used in the chemico-pharmaceutical and rubber industries, is described. The method is based on the formation of the azo dye helianthin through the interaction of dimethyl aniline with sulfanilic and nitric acids. In the acid medium, the dye takes on a carmine-red color. (U)

Sum. 10/1/58

ZIL'BERG, Lev Aleksandrovich

[Principles of immunology] Osnovy immunologii. Izd.3. Moskva,  
Medgiz, 1958. 598 p. (MIRA 12:3)  
(IMMUNITY)

25

Dyeing with sulfur dyes followed by diazotizing. K. Sokhor and M. Zil'berg. *Izvestiya Akad. Nauk SSSR, Ser. Khim.* 1939, No. 8, 30; *Khim. Ref. Zh.* 1939, No. 11, 107. — Optimum results (an even and proper shade of the dye) were obtained with 12% of S brown Zh, 2% of S black Chf and 14% of NaSO<sub>3</sub>. After dyeing, the material was gradually cooled and was diazotized for 10 min. in the cold.

W. R. Hein

METALLURGICAL LITERATURE CLASSIFICATION

CLASSIFICATION

ZIL'BERG, M.I.

Modernization of industrial equipment in enterprises of the  
Novosibirsk Economic Council. Biul.tekh.-ekon.inform. no.12:  
88 '61. (MIRA 14:12)  
(Novosibirsk Province--Industrial equipment--Technological  
innovations)

Zil'berg, M. K.

USSR/Engineering - Heat treating equipment

Card 1/1 Pub. 128 - 14/32

Authors : Zil'berg, M. K.

Title : The use of salpeter (potassium nitrate) baths

Periodical : Vest. mash. 11, 54-56, Nov 1954

Abstract : The editorial gives some information concerning use of potassium nitrate baths for thermal treatment of ferrous metals and alloys. A description is presented of various heating methods and devices. Drawings.

Institution : ...

Submitted : ...

TEST AND INSPECTION PROCESSES AND PROPERTIES INDEX

25

Dyeing cotton yarn with the Soviet indasthrene dyes in the Obermaier apparatus. K. T. Sokhor and M. S. Zilberg. *Khlopchako-Bumashvaya Prom.* 1939, No. 10, 37-8; *Khimp. Referat. Zhur.* 1940, No. 6, 115; cf. C. A. 34, 1937. — Methods and conditions for dyeing yarn in the Obermaier app. with the vat Golden Yellow ZhKh and with the vat Bright-Green C are described. The vat Dark-Blue O dye produced unsatisfactory results. W. R. H.

A10-51A METALLURGICAL LITERATURE CLASSIFICATION

GROUP	SECTION	SUBSECTION	ITEM	DATE	REMARKS

PROCESSES AND PROPERTIES INDEX

27

*ta*

Dyeing of cotton with indanthrene in the Obermaier apparatus. K. T. Sokhor and M. S. Zilberg. *Khimiya volokna i nitrocellyuloza* 1941, 1, 1228; cf. *C. A.* 36, 8017. — To dye a cornflower-blue color, steep in a soln. contg. hyposulfite 1 g. per l., 30°Bé. NaOH 3 ml. per l., dye with Chlouranthrene Blue 2%, 30°Bé. NaOH 17 ml. per l., hyposulfite 7, cakes of joiner's glue 2.5, and 33% ricinate 3 g. per l. For yellow dyeing, steep in a soln. of Na<sub>2</sub>CO<sub>3</sub> 1, and hyposulfite 0.5 g. per l., and dye with Vat Gold-Yellow 5h Ch, 30°Bé. NaOH 3 ml. per l., hyposulfite 3.5, plates of joiner's glue 2.5, 33% ricinate 3, NaCl 3, and Na<sub>2</sub>CO<sub>3</sub> 9 g. per l. For beige, boil the fabric, and dye, without previous steeping, with Vat-Brown K 1.5%, 30°Bé. NaOH 10 ml. per l., hyposulfite 4, joiner's glue 2.5, 33% ricinate 3 g. per l. The exact procedure is indicated.

M. Hovch

METALLURGICAL LITERATURE CLASSIFICATION

62-100000

62-100000



GEL'PERIN, N.I.; IDEL'SON, Ye.M.; LIVSHITS, A.K.; ZIL'BERG, V.I.; BORISENKO,  
A.T.; GABRIYELOVA, L.I.

Improving methods of xanthate production. Report no.1: Preparation  
of potassium and sodium butyl and theyl xanthates from anhydrous  
alcoholates. Sbor.nauch.trud.GINSTVETMET no.16:153-169 '59.  
(MIRA 14:4)

(Xanthic acid)

(Alcoholates)

GEL'PERIN, N.I.; IDEL'SON, Ye.M.; LIVSHITS, A.K.; BORISENKO, A.T.;  
ZIL'BERG, V.I.

Improved method for the production of xanthates. Report no.4:  
Preparing xanthates by the continuous method from isobutyl,  
butyl SK, and isopropyl alcohol. Sbor. nauch. trud. Gintsvet-  
meta no.19:255-262 '62. (MIRA 16:7)

(Xanthic acid)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002065120013-1

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**APPROVED FOR RELEASE: 09/19/2001**

**CIA-RDP86-00513R002065120013-1"**

ZIL'BERG, YA. F.

Chancroid. Moskva, 1948. 122 p. Biblioteka prakticheskogo vracha.

SKOTNIKOV, Viktor Vasil'yevich; VEDENYAPIN, G.A., red.; LIPGART, A.A., otv. red.;  
BORISOV, S.G., red.; BRISKIN, M.I., red.; DYBOV, O.V., red.; ZIL'BERG, Ya.  
G., red.; KOZLOVSKIY, I.S., red.; LOZAR', A.S., red.; LUNEV, I.S., red.;  
PEVZNER, Ya.M., red.; PRYADILOV, V.I., red.; RAMAYYA, K.S., red.;  
SAMOL', G.I., red.; SEDOVA, Ye.V., red.; KHANIN, N.S., red.; CHAPAYEV,  
A.A., red.; CHISTOZVONOV, S.B., red.; SHKOL'NIKOV, B.M., red.;  
YEGORKINA, L.I., red. izd-va; SMIRNOVA, G.V., tekhn. red.

[Intermediate transformation and temper brittleness of auto-  
mobile body steels] Promezhutochnoe prevrashchenie i otpusknaya  
khrupkost' v konstruktsionnykh avtomobil'nykh staliakh. Moskva,  
Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry 1958. 74 p.  
(Gosudarstvennyi nauchno-issledovatel'skii avtomobil'nyi i avto-  
motornyi institut Trudy, no.85) (MIRA 12:2)  
(Steel, Automobile--Metallography)

BALYUK, S.T.; ZIL'BERG, Ye.S.

Rapid method of determining the  $Cr_2O_3$  content in chromite ores, chrome-magnesite mixtures and refractories. Ogneupory 28 no.8: 378-379 '63. (MIRA 16:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for Balyuk). 2. Nikitovskiy dolomitnyy kombinat (for Zil'berg).

PIROGOV, A.A.; LEVE, Ye.N.; KRASS, Ya.R.; BELICHENKO, G.I.; KOTIK, P.L.;  
SIDORENKO, Yu.P.; ZIL'BERG, Ye.S.; DRYAPIK, Ye.P.; VAYNTRAUB, S.S.;  
ZHIDKOV, V.A.; SHCHEDRINSKIY, L.I.; MOREV, G.P.

Prefabricated blocks of unfired magnesite-chromite brick.  
Metallurg 9 no.4:23-24 Ap '64. (MIRA 17:9)

1. Ukrainskiy institut ogneuporov, Nikitovskiy dolomitovyy  
kombinat i Kommunarskiy metallurgicheskiy zavod.



ZIL'BERG, Yu. G., SHMIDT, N. K. and STRELIN, G. S.

"Reduction of the Harmful Effect of X-Rays on the Skin of Rabbits when Irradiation is Carried out Through a Lead Lattice", Dokl AN SSSR, Vol. LXXV, No. 3, pp 465-468, 1950.

Gen. Roentgenological, Radiological, and Cancer Inst., Min. of Pub. Health USSR.

SO: W-17564, 30 Mar 1951

ZIL'BERG, Yu.G.

Stimulating the growth of hair in rabbits by a single local exposure of the skin to X rays. Vop.radiobiol. 2:323-328 '57. (MIRA 12:6)

1. Sotrudnik Tsentral'nogo nauchno-issledovatel'skogo rentgenoradiologicheskogo instituta Ministerstva zdavookhraneniya SSSR. (X RAYS--PHYSIOLOGICAL EFFECT) (HAIR)

STRELIN, G.S.; KASHCHENKO, L.A.; SHMIDT, N.K.; GALKOVSKAYA, K.F.;  
PUSHNITSINA, A.D.; ZIL'BERG, Yu.G.

Effect of the dose of radiation from radioactive cobalt ( $Co^{60}$ )  
on the reaction of the organism in total body irradiations.  
Vop.radiobiol. 2:30-43 '57. (MIRA 12:6)

1. Sotrudniki Tsentral'nogo nauchno-issledovatel'skogo rentgeno-  
radiologicheskogo instituta Ministerstva zdavookhraneniya SSSR.  
(COBALT--ISOTOPES) (RADIATION--DOSAGE)

32794  
S/137/61/000/012/078/149  
A006/A101

185100

1496 1413 1454

AUTHORS: Grudev, A. P., Zil'berg, Yu. V., Zhuk, V. G., Stepanova, L. D.,  
Tarshinov, V. I.

TITLE: Peculiarities of cold rolling of cast iron sheets

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 7, abstract 12D43  
(V sb. "Polucheniye izdeliy iz zhidk. met. s uskoren. kristallizatsiyey", Moscow-Kiyev, Mashgiz, 1961, 211-223)

TEXT: Investigations were made with specimens and sheets of conventional cast-iron containing in %: C 3 - 3.4; Si 1.4 - 1.7; Mn 0.4 - 0.7; S 0.1, P about 0.1. It was established that the optimum degree of deformation in cold rolling of sheets which assures the highest indices of strength and ductility, is 25 - 30%. The properties of sheets depend mainly on total deformation; the effect of the factor of deformation divisibility during rolling was very small. High-quality longitudinal rolling of sheets is achieved in rolls with concave outline, i.e. when the shape of the slit between the rolls corresponds to the cross sectional shape of the sheet supplied for rolling. It is also required that the sheets be free of slag trails. The use of spindle oil as a technological

Card 1/2

32794

S/137/61/000/012/078/149  
A006/A101

Peculiarities of cold rolling of cast iron sheets

grease makes it possible to obtain 7 - 11% drawing in one pass without overloading the mill. The following distribution of drawings over the passes is recommended: 1st pass 6 to 8%; 2 - 8 to 10%; 3 - 5 to 7%. To reduce the possibility of hollow formation,  $H_{sh}$  of the roll barrel should be  $\geq 100$  units. The sheets should be straightened after recrystallization annealing. Mills for the cold rolling of cast-iron sheets should be equipped with 4-roll stands; the roll diameter must be 350 - 400 mm (working rolls) and 900 - 1,100 mm (backing rolls) at a length of the roll barrel  $L = b_{max} + 100$  mm, where  $b_{max}$  is the maximum width of the sheets to be rolled. The mill motor should have a power of about 350 - 400 kw.

V. D'yakov

[Abstracter's note: Complete translation]

Card 2/2

S/137/61/000/012/079/149  
AC06/A101

AUTHORS: Grudev, A. P., San'ko, N. M., Zil'berg, Yu. V., Zhuk, V. G.

TITLE: Hot rolling of white iron sheets and its effect on the structure and properties of the metal

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 7, abstract 12D44 (V sb. "Polucheniye izdeliy iz zhidk. met. s uskoren. kristallizatsiyey", Moscow-Kiyev, Mashgiz, 1961, 224-235)

TEXT: Experimental hot rolling was carried out with conventional, low-silicon and low-carbon white iron sheets, and specimens with an S content raised to 0.14%. The initial thickness was 0.6 - 2 mm; width 100 mm, and length 200 - 300 mm. The specimens were cut with the aid of a fine emery wheel out of full-dimensional white iron sheets selected immediately after forming. Hot rolling was performed on a two-high mill with polished quenched steel rolls of 185-200mm in diameter, 180 mm barrel length and 0.3 m/sec rolling speed. Independent of the chemical composition the white iron sheets possessed considerable ductility at 750 - 1,050°C.  $\delta$  per pass was 1 - 10% and more. When rolling the specimens individually at 950 - 1,000°C,  $\delta$  as high as 15 - 34% was attained. Industrial

Card 1/2

Hot rolling of white iron sheets ...

S/137/61/000/012/079/0149  
A006/A101

tests confirmed the possibility of hot rolling of white cast-iron sheets. Rolling affects considerably the structure of white iron sheets; the amount of graphite impurities is sharply raised; their size is reduced; the graphitization rate is raised and a number of other structural changes take place. It is recommended to design a mill for the hot rolling of white iron sheets as a four-high type with roll diameters of 250 - 300 mm (working rolls) and 600 - 800 mm (backing rolls), and a barrel length  $L_{max} = b_{max} + 100$  mm, where  $b_{max}$  is the greatest width of the white iron sheets to be rolled. The possibility of regulating the revolution of the rolls must be provided for. Maximum rolling speed can be assumed to be about 3 m/sec. Gas torches should be mounted along the barrel of the rolls to heat the rolls and to regulate their profile. ✓

V. D'yakov

[Abstracter's note: Complete translation]

Card 2/2

GRUDEV, A.P.; ZIL'BERG, Yu.V.

Relation of maxima angles of grip to the thickness of the strip  
being rolled. Izv. vys. ucheb. zav.; chern met. 5 no.1:112-  
120 '62. (MIRA 15:2)

1. Dnepropetrovskiy metallurgicheskiy institut.  
(Rolling(Metalwork))



GRUDEV, A. P., kand. tekhn. nauk; ZIL'BERG, Yu. V., inzh.

Maxima angles of bite in the rolling of steel and nonferrous metals. Nauch. trudy DMI no.48:186-191 '62.

(MIRA 15:10)

(Rolling(Metalwork)) (Friction)

GRUDEV, A. P., kand. tekhn. nauk; ZIL'BERG, Yu. V., insh.

Investigating external friction during the rolling of lead.  
Nauch. trudy DMI no.48:299-310 '62. (MIRA 15:10)

(Rolling(Metalwork)) (Friction)

CHEKMAREV, A.P., adademik; GRUDEV, A.P., kand. tekh.nauk; TARAN, Yu.H., kand. tekh.nauk; ZIL'BERG, Yu.V., inzh.; KURILENKO, V.Kh., inzh.; DERGACH, A.Ya., inzh.; LITINSKIY, D.M., inzh.; NESTEROVA, G.V., inzh. SAMOYLENKO, V.D., inzh.

Reducing metal sticking on the rolls during the hot rolling of stainless tubes. Stal' 23 no.7:631-635 J1 '63. (MIRA 16:9)

1. AN UkrSSR (for Chekmarev).  
(Pipe mills) (Steel, Stainless)

"APPROVED FOR RELEASE: 09/19/2001

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APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002065120013-1"

GRUDEV, A.P. (Dnepropetrovsk); ZIL'BERG, Yu.V. (Dnepropetrovsk)

Influence of the metal temperature on the coefficient of friction  
during rolling. Izv. AN SSSR. Met. i gor. delo no.6:161-164  
Nov. '64. (MIRA 18:3)

CHEKMAREV, A.P.; GRUDEV, A.P.; ZIL'BERG, Yu.V.

Hot rolling of steel with the use of metalworking lubricants.  
Izv. vys. ucheb. zav.; Chern. met. 7 no.11:131-136 '64.

1. Dnepropetrovskiy metallurgicheskiy institut.

(MIRA 17:12)

ZIL'BERG, Yu. Ya.; GOSTEV, B. I.

"Commercial Fabrication of Tractor Bearing Inserts from Rolled Bimetallic Strip  
(AM Aluminum Alloy-Duraluminum) in Mass Production"

Inst Mashinovedeniya, AN SSSR; Izdatel'stvo Akad Nauk SSSR, Moscow, 54, pp 98/107

B-28959, 21 Feb 55



ZIL'BERG, Yu. Ya.; GOSTEV, B. I.

"Laboratory Life Tests of Bearing Inserts of AM Aluminum Alloy-Duraluminum Bimetal"

Inst Mashinovedeniya, AN SSSR; Izdatel'stvo AK.Nauk SSSR, Moscow, 1954, pp108/116

B-82959, 21 Feb 1955

GOSTEV, B. I.; ZIL'BERG, Yu. Ya.

"Motor Life and Service Tests of Diesel Tractor Bearings with Inserts of Aluminum Alloy AM-Duraluminum Bimetal"

Inst Mashinovedeniya, AN SSSR; Izdatel'stvo AN SSSR, Moscow, 1954;  
pp 117/143

B-82959, 21 Feb 55

ZIL'BERG, YU. YA.

USSR/Engineering - Metallurgy

Card 1/1

Authors : Gostev, B. I., and Zil'berg, Yu. Ya.

Title : Aluminum Alloy Bi-Metallic Bearing Inserts

Periodical : Avt. Trakt. Prom. Ed. 1, 14-17, January 1954

Abstract : Durability studies were conducted by the Scientific Automotive Technical Institute on aluminum alloy bi-metallic bearing inserts, used for diesel D-35 and D-54 tractor engines. Tables on chemical composition of the better known aluminum anti-friction alloys, their rate of wear under operational conditions, and defects encountered in some of the above mentioned alloys are given. Illustrations; tables.

Institution : ....

Submitted : ....

ZIL'BERG, YU. YA.

USSR/ Engineering - Bimetallic bearings

Card 1/1 : Pub. 128 - 6/31

Authors : Zil'berg, YU. YA.

Title : Improving lead-bronze plated bearings

Periodical : Vest. mash. 10, 28 - 30, Oct 54

Abstract : The structure and physical characteristics of multi-layer bearings is described, and new methods for electrolytic deposition of lead-tin-antimony are given. Diagram; illustrations; graph.

Institution : ....

Submitted : ....

AUTHOR: Zil'berg, Yu.Ya.

32-3-30/52

TITLE: A Method of Testing Bimetal as to the Coupling Resistance of the Anti-Friction Layer With Its Base (Metodika ispytaniya bimetalla na prochnost' stsepleniya antifriktsionnogo sloya s osnovaniyem)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 335-338 (USSR)

ABSTRACT: The test method described consists in cutting or tearing the coatings from the basic metal layer by dynamic stress. The samples to be investigated have crosspieces made from the coating metal to be investigated, which were obtained by circular- or longitudinal twisting. These crosspieces were subjected to dynamic stress on special rams adapted for this purpose. An explanation of the sketched-out order and of the various sample profiles is given. Specific impact strength is calculated according to a given formula. As may be seen from a table of results, the result does not, in the case of four measurements of one and the same sample, exceed the difference of 5 - 7%, and N.N. Davidenkov [Ref.1] points out that, in order to obtain accurate results, it is necessary to work with a ram the pendulum force of which only little exceeds

Card 1/2

A Method of Testing Bimetal as to the Coupling  
Resistance of the Anti-Friction Layer With Its  
Base

32-3-30/52

that which is necessary for the investigation of the sample. The method described is used by various tractor factories as well as by the metallurgical plant "Red October" and others. There are 3 figures, 1 table, and 1 reference, 1 of which is Slavic.

ASSOCIATION: State Union Scientific Research Institute for Tractors  
(Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktorny  
institut)

AVAILABLE: Library of Congress

1. Metal coatings-Test methods
2. Metal coatings-Test results
3. Metal coatings-Test equipment

Card 2/2

ZIL'BERG, Yu.Ya., kand. tekhn. nauk.

Using aluminum-ACM alloy bimetallic bushings in tractor engine  
bearings instead of lead-bronze bushings. Vest.mash. 38 no.10:34-36  
0 '58. (MIRA 11:11)

(Bearing metals)

(Tractors--Engines)

Aluminum Alloy, ASM (Cont.)

SOV/2203

bearings, the methods of the aluminum cladding of steel strip, and the manufacturing process for making bimetal inserts. Laboratory and field testing data are given. Based on favorable results of the use of bimetal inserts made of steel and ASM alloy, the authors recommend broad application of this type of bearing. The authors mention the following institutions as having contributed to the development of this type of bearing: Nauchno-issledovatel'skiy traktornyy institut (Tractor Scientific Research Institute), Institut mashinovedeniya AN SSSR (Institute of Machine Construction, Academy of Sciences, USSR), Institut metallurgii AN SSSR (Institute of Metallurgy, Academy of Sciences, USSR), and Moskovskiy zavod pri obrabotke tsvetnykh metallov (Moscow Nonferrous Metals Plant). There are 30 references: 13 Soviet, 11 English, and 6 German.

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BEGIDZHANOVA, A.P., kand.tekhn.nauk; ZIL'BERG, Yu.Ya., kand.tekhn.nauk

Aluminum bimetallic bushings of repair size. Mekh.i elek.sots.  
sel'khoz. 17 no.6:23-27 '59. (MIRA 13:4)

1. Soyuznyy nauchno-issledovatel'skiy traktorny institut.  
(Bearings (Machinery))

BRIDZHANOVA, S.P., kand.techn.nauk; ZIL'BERG, Yu.Ya., kand.techn.nauk

Rapid fatigue tests of antifriction alloys. [Trudy] NANI no.13:  
23-31 '59. (HIRA 12:7)

(Fatigue testing machines)

PAGE I BOOK INFORMATION 807/5375

Abdumayev, M., Institut Metallurgii Leningradsk. A.A. Baylora  
 Vostok: metallurg. materialy spetsialnoy 22-24  
 sentyabrya 1958 g. (Fatigue of Metals, Proceedings of the Conference on Fatigue  
 of Metals, September 22-24, 1958). Moscow, 1959. 157 p. 3,500 copies printed.  
 Rep. Ed.: I.A. Odling, Corresponding Member, Academy of Sciences USSR; Ed. of  
 Publishing House: A.J. Chernov; Tech. Ed.: I.N. Durobabin.

NOTE: This collection of articles is intended for mechanical engineers,  
 metallurgists, and scientific research workers.

CONTENTS: The collection contains discussions relating to fatigue failure of  
 metal parts in finished parts, and methods for testing endurance. Included  
 are articles on the fatigue of metal parts, the fatigue of metal parts under  
 physical fatigue parameters and physical fatigue parameters. The  
 possibilities for applying a new criterion to the notch sensitivity of metals  
 and high-strength steels are investigated. The mechanism of failure due to  
 corrosion fatigue of metals is discussed along with pertinent experimental  
 data. Also presented are the results of testing the fatigue strength of such  
 metal parts as large-size plates and various parts of machines used in the  
 petroleum industry. Problems involved in testing metals for fatigue are  
 examined. Biographical references, most of which are Soviet.  
 Bibliographic references, most of which are Soviet.  
 Zhukovskiy, Ye. K. (Moscow), Ye. Ye. Kuznetsov, L.M. Popovskiy,  
 and Ye. K. Zhukovskiy. Some Data on Physical Fatigue Parameters  
 of Steel. Fatigue Failure

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INDEX OF SUBJECTS

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72/rev/mas  
 11-9-60

ZILBERG, Yu. Ya

212 BRAG, YO. YA.

PHASE I BOOK EXPLOITATION SOV/5053

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.

Iznos i iznosostoykost'. Antifraktsionnyye materialy (Wear and Wear Resistance, Antifriction Materials) Moscow, Izd-vo AN SSSR, 1960. 273 p. Errata slip inserted. 3,500 copies printed. (Series: Itai Trudy, v. 1)

Sponsoring Agency: Akademiya nauk SSSR, Institut mashinovedeniya. Resp. Ed.: M. M. Khrushchov, Professor, Eds. of Publishing House: M. Ya. Klebanov, and S. L. Orpik, Tech. Ed.: T. V. Polyakova.

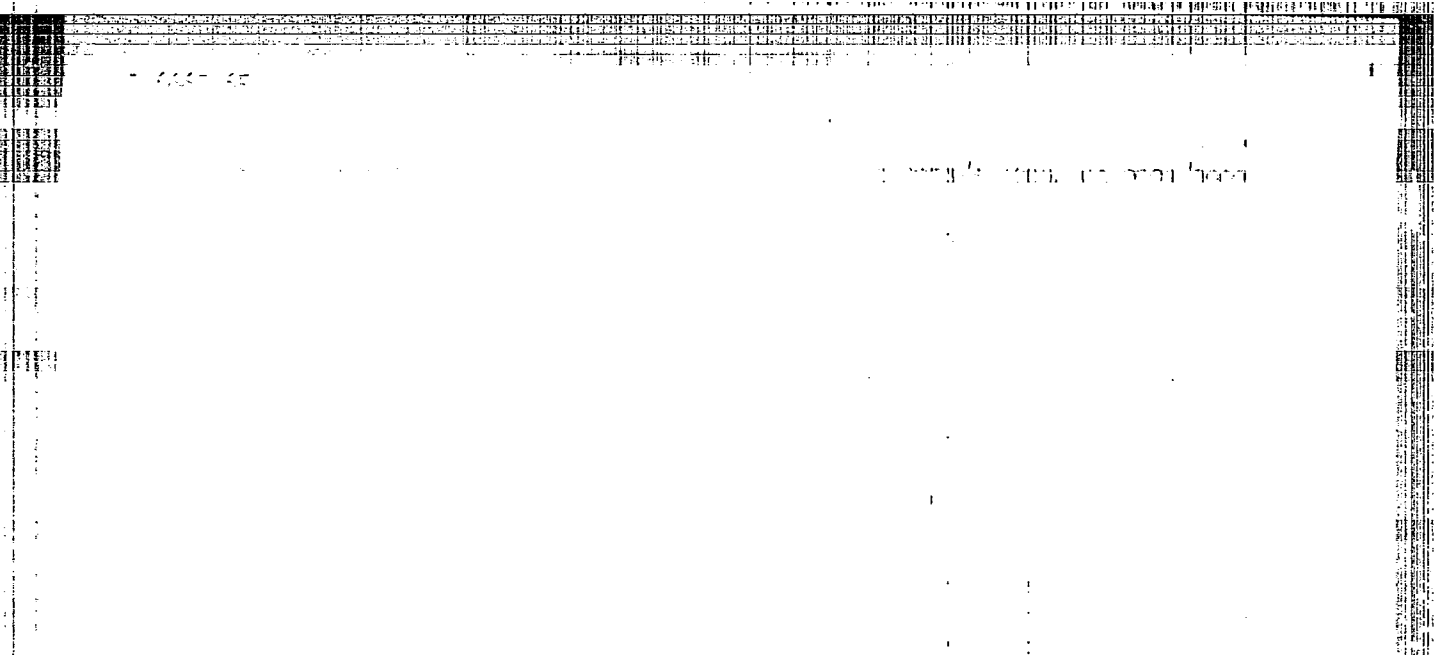
PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya Konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in 5 main areas: 1) Hydrodynamic Theory of Lubrication and Friction Bearings (Chairman: Ye. M. Gut'yar, Doctor of Technical Sciences and A. E. D'yachkov, Doctor of Technical Sciences); 2) Lubrication and Lubricant Materials (Chairman: G. V. Vinogradov, Doctor of Chemical Sciences); 3) Dry and Boundary Friction (Chairman: E. V. Derysgin, Corresponding Member of the Academy of Sciences USSR, and I. V. Kregel'skiy, Doctor of Technical Sciences); 4) Wear and Wear Resistance (Chairman: M. M. Khrushchov; Doctor of Technical Sciences); and 5) Friction and Antifriction Materials (Chairman: I. V. Kregel'skiy, Doctor of Technical Sciences, and M. M. Khrushchov, Doctor of Technical Sciences). Chairman of the general assembly (on the first and last day of the conference) was Academician A. A. Blagunov. I. V. Pruzhanskiy, Candidate of Technical Sciences, was scientific secretary; the transactions of the conference were published in 3 volumes, of which the present volume is the first. This volume contains articles concerning the wear and wear resistance of antifriction materials. Among the topics covered are: modern developments in the theory and experimental science of wear resistance of materials, specific data on the wear resistance of various combinations of materials, methods for increasing the wear resistance of certain materials, the effects of friction and wear on the structure of materials, the mechanism of the aging of metals, the effect of various types of lubricating materials on seizing, abrasive wear of a wide variety of material components under many different conditions, modern developments in antifriction materials, and the effects of finish machining on wear resistance. Many personal qualities are mentioned in the text. References accompany most

ANTIFRICTION MATERIALS

Al'bitskiy, I. Ya., and L. M. Sushkina. Testing of Antifriction Materials and Platings	240
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during the cylinders is described.

BEGIDZHANOVA, A.P., kand. tekhn. nauk; ZIL'BERG, Yu.Ya., kand. tekhn. nauk

Using plastic materials in the tractor industry. Trakt.  
i sel'khoz mash. no.5:37..39 My '64. (MIRA 17:6)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy  
traktorny institut.

RUDNITSKIY, N.M.; ZIL'BERG, Yu Ya., kand. tekhn. nauk,  
retsenzent; KURITSYNA, A.D., kand. tekhn. nauk,  
retsenzent; KOZLOVSKIY, I.S., kand. tekhn. nauk, red.

[Materials for sliding bearings used in motor vehicles  
and tractors] Materialy avtotraktornykh podshipnikov  
skol'zhenia. Moskva, Mashinostroenie, 1965. 163 p.  
(MIRA 18:7)

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AEDC (h) / AIRCER

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Card 1/2

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ZIL'BERG, Yu.Ya., kand.tekhn.nauk; KHRUSHCHOVA, K.M., inzh.

New alloy for heavily loaded bearings of tractor diesel engines.  
Vest.mashinostr. 42 no.5:53-56 My '62. (MIRA 15:5)  
(Bearing metals)

ZILBERG, ILYA

1960/5085

Sovoshchaniye po ustaloosti metallov. Sud., Moscow, 1960.

Tsikhicheskaya predmetnaya ustaloosti metallov, 20-21 iyunya 1960 g. (Sposoby izmeneniya  
Strength; Abstracts of the Second International Conference on Fatigue of  
Metals, held May 21 - 27, 1960) Moscow, Izdatel'stvo Metallurgii, 1960.  
338 p. Brnata slip included. 2000 copies printed.

Resp. Ed.: I. A. Giring, General Director of the Academy of  
Sciences of the USSR; Dir. of Publishing House: A. B. Gerasimov;  
Tech. Ed.: A. P. Gerasimov.

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

COVERAGE: The collection contains papers presented and discussed  
at the second conference on fatigue of metals, which was held  
at the Institute of Metallurgy in May 1960. These papers deal  
with the nature of fatigue fracture, the mechanism of formation

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Cyclic Metal Strength (Cont.)

SOV/6025

and growth of fatigue cracks, the role of plastic deformation in fatigue fracture, an accelerated method of determining fatigue strength, the plotting of fatigue diagrams, and various fatigue test methods. New data are presented on the sensitivity of high-strength steel to stress concentration, the effect of stress concentration on the criterion of fatigue failure, the effect of the size factor on the strength of metal under cyclic loads, and results of endurance tests of various machine parts. Problems connected with cyclic metal toughness, internal friction, and the effect of corrosion media and temperature on the fatigue strength of metals are also discussed. No personalities are mentioned. Each article is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

NATURE OF FATIGUE FRACTURE

Oding, I. A. Diffusionless Mechanism of Formation and Growth of a Fatigue Crack  
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AVAILABLE: Library of Congress

SUBJECT: Metals and Metallurgy  
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DV/wrc/ldc  
8/13/62

BAKUMA, S.F., inzh.; ZIL'BERG, Yu.Ya., kand.tekhn.nauk; KHRUSHCHOVA, K.M.,  
inzh.

Use of 08kp steel for the production of bimetal. Stal' 22  
no.3:267-268 Mr '62. (MIRA 15:3)  
(Laminated metals) (Steel)

S/122/62/000/005/003/004  
D234/D308

AUTHORS:

Zil'berg, Yu.Ya., Candidate of Technical Sciences,  
and Khrushchova, K.M., Engineer

TITLE:

A new alloy for heavily loaded bearings of tractor  
diesels

PERIODICAL:

Vestnik mashinostroyeniya, no. 5, 1962, 53 - 56

TEXT:

The authors describe the results of tests carried out on the alloy АЦК (АТsК) consisting of Al, Zn, and Si. Its strength is found to increase with the content of Zn and Si; corrosion strength is practically the same as that of АСМ (ASM) alloy. One of the optimum compositions from the point of view of physical properties is approximately 3 % Zn and 3 % Si. Lower melting point (75° C) reduces the danger of gas bubble formation. Mechanical properties of АТsК are generally within the same limits as those of ASM. In manufacturing bushings from steel and АТsК it was found possible to utilize broaching instead of diamond boring. Running-in bushings with АТsК requires less

Card 1/2



A new alloy ...

S/122/62/000/005/003/004  
D234/D308

time than those with ASM. Bushings were also tested on experimental motors under operating conditions and their durability and working capacity were found to be high. There are 2 figures and 1 table.



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S/133/62/000/003/006/008  
A054/A127

AUTHORS: Bakuma, S. F., Engineer, Zil'berg, Yu. Ya., Candidate of Technical Sciences, Khrushchova, K. M., Engineer

TITLE: Using 08KП (08kp) grade steel in the production of bimetal strips

PERIODICAL: Stal', no. 3, 1962, 267 - 268

TEXT: The use of 08kp grade steel instead of armco iron in the production of steel-aluminum strips has several advantages: the bimetal-strip output can be increased, production is cheaper, the smelting time of 08kp grade steel is by 1 - 1 1/2 hours shorter than that of armco iron, less ferrosilicium and lime are required, the lining of the furnace and that of the ladle have a longer service life because the steel becomes less oxidized and has a lower temperature. The  $\sigma_B$ ,  $\sigma_s$ ,  $\delta$ ,  $H_B$  values and notch toughness (at various degrees of solidification or without solidification) are nearly identical for both metals. The dimensional stability and service life of the main bearing bushings and crank bearing bushings of heavy-duty  $\Delta$ -54 (D-54) tractor engines, made of bimetal strips based on 08kp steel and armco iron were investigated and compared. the metals had the following composition: (in %)

Card 1/2

Using 08KП (08kp) grade steel in...

S/133/62/000/003/006/008  
A054/A127

	C	P	S	Si	Mn
08kp	0.08	0.009	0.0036	traces	0.35
armco iron	0.040	0.012	0.024	0.18	0.20

The technology used for bimetal strips based on 08kp steel was the same as for those made with armco iron (long-term annealing at 460°C followed by slow cooling). At the Volgogradskiy traktorny zavod (Volgograd Tractor Plant) bushings were made from both types of bimetals, 3.2 and 5.2 mm thick. When the bushings made of 08kp steel strips were stamped, scratches were found on the metal surface, but the back of the sheet was cleaner than of sheets made with armco-iron. By pickling the bushings the amount of scratches could be reduced. High-quality stamped products are obtained when the hardness of the base is below 100 R<sub>B</sub> and there is no cross scaling off the surface. The strips made with 08kp steel correspond to these requirements. As, during operation, the bushings are deformed by high temperature and stresses (mainly during fitting) it had to be found out in which way the technology and the chemical composition of the steel affected their dimensional stability. The changes of the free bushing-diameters of the D-54 engine, after heating to 100, 150 and 200°C and in a stressed condition were as follows:

Card 2/3

ZILBERGERTS, P.I.

Determining reducing substances in beets. Sakh.prom.30 no.11:33 N  
'56. (MLBA 10:2)

1. Volochisskiy sakharnyy zavod.  
(Sugar beets) (Reducing agents)

ZIL'BERGERTS, P.I.

Simplify the method of determining the best technological system.  
Sakh.prom. 29 no.2:21-22 '55. (MLEA 8:6)

1. Kayembovskiy sakharomy zavod.  
(Sugar industry)

SHURYGIN, P.M.; ZIL'BERGLETT, B.I.

Reactive diffusion of carbon, silicon, and phosphorus in their alloys with iron. Izv. vys. ucheb. zav.; Chern. met. 6 no.8:13-18 '63. (MIRA 16:11)

1. Ural'skiy politekhnicheskiy institut.

BOGAYCHUK, V.G. [Bohaichuk, V.H.]; YUSIM, F.M. [IUsyn, F.M.]; LEYZEROVICH,  
M.Ya.; ZIL'BERGLEYT, I.S.

Proposals of efficiency promoters of the Odessa Shoe Factory  
No. 2. Leh.prom. no.1:88-92 Ja-Mr '62. (MIRA 15:9)  
(Odessa--Shoe industry--Technological innovations)

ZIL'BERGLETT, M., inzh.

Washing and cleaning parts in drums. Avt.transp. 37 no.1:31-32  
Ja '59. (MIRA 12:2)

(Automobiles--Maintenance and repair)



ZIL'BERGLEYT, P. B.

Labor efficiency in the coal-mining industry materials Khar'kov, Izd. Ukgosplana 1  
Donuglia, 1930. 107 p. 50-51738

HD<sub>0</sub>555.R83D69

1. Labor productcity--Conets Basin. 2. Coal mines and mining- Russia - Donets Basin.

YAKOBSON, M.O.; ZILBERGLEIT, Y.L.

Technology of automated production of spur pinions. Trakt.1  
sel'khoz mash. no.6:40-46 Ja '59. (MIRA 12:9)  
(Gear cutting) (Automation)

ZIL'BERGLIT, S.

MAMUROVSKIY, A.; ZIL'BERGLIT, S.

Problems in the mechanization of quarrying cut stone. Stroi. mat.  
4 no.3:14-16 Mr '58. (MIRA 11:3)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR  
(for Mamurovskiy). 2. Nachal'nik konstruktorskogo byuro mekhanizatsii  
dobychi shtuchnogo kamnya Akademii stroitel'stva i arkhitektury (for  
Zil'berglit).

(Quarries and quarrying)

ZIL'BERGOL'TS, M.L.

X-ray therapy of kraurosis vulvae [with summary in English]. Vest.  
rent. i rad. 33 no.2:55-57 Mr-Apr '58. (MIRA 11:6)

1. Iz rentgenoterapevticheskogo otdela (zav. - prof. L.D.Podlyashuk)  
TSentral'nogo nauchno-issledovatel'skogo instituta rentgenologii i  
radiologii (dir. - dotsent I.G.Iagunova) Ministerstva zdravookhra-  
neniya RSFSR.

(VULVA, dis.

kraurosis, x-ray ther. (Rus))

(RADIOTHERAPY, in various dis.

kraurosis vulvae, x-ray ther. (Rus))

ZIL'BERGOL'TS, M.L.

Role of roentgen rays in the treatment of osteoarthritis deformans  
and spondylolysis deformans. Sov.med. 23 no.9:112-114 S '59.

(MIRA 13:1)

1. Iz rentgenovskogo otdeleniya (nachal'nik F.S. Murogin, konsul'tant -  
prof. N.P. Negovskiy) Tsentral'noy polikliniki (nachal'nik N.I.  
Kuznetsov) Ministerstva putey soobshcheniya.

(SPINE dis.)

(BONE DISEASES radiother.)

ZIL'BERGOL'TS, M.L.

X-ray therapy in chronic eczema. Trudy TSentr. nauch.--issl.  
inst. rentg. i rad. 10:292-294 '59. (MIRA 12:9)  
(X RAYS--THERAPEUTIC USE) (ECZEMA)

ZIL'BERGOL'TS, M.L.

Changes in the skin covering in leukosis and lymphogranulomatosis.  
Trudy TSentr. nauch.-issl. inst. rentg. i rad. 10:295-298 '59.

(MIRA 12:9)

(LEUKEMIA) (HODGKIN'S DISEASE) (SKIN--DISEASES)

ZIL'BERGOL'TS, M.I.

Role of X rays in treating osteoarthrosis deformans and spondylitis deformans. Vest.rent. 1 rad. 33 no.2:82 Mr-Apr '58. (MIRA 11:6)

1. Iz rentgenovskogo otdeleniya (nach. F.S.Murogin, konsul'tant - prof. N.P.Negovskiy) Tsentral'noy polikliniki Ministerstva putey soobshcheniya (nach. N.I.Kuznetsov)  
(RHEUMATOID ARTHRITIS) (SPINE--DISEASES)  
(X RAYS--THERAPEUTIC USE)



ZIL'BERGOL'TS, M.L.

Treatment of chronic eczema by total-body ultraviolet irradiation.  
Vop. kur., fizioter. i lech.fiz. kul't. 27 no.1:67-68 '62.

(MIRA 15:5)

1. Iz rentgenoterapevticheskogo otdela (zav. - prof. L.D.Podlyashuk  
[deceased]) Nauchno-issledovatel'skogo rentgeno-radiologicheskogo  
instituta (dir. - prof. I.G.Lagunova) Ministerstva zdavookhraneniya  
RSFSR.

(ULTRAVIOLET RAYS---THERAPEUTIC USE)

ZHUKOV, N.A.; ZIL'BERGOL'TS, M.L.; SAVINA, S.Ya.

Problem of so-called keratoacanthoma. Sov.med. 24 no.11:109-111  
N '60. (MIRA 14:3)

1. Iz Tsentral'noy polikliniki Ministerstva putey soobshcheniya  
(hachal'nik N.I.Kuznetsov, konsul'tant'y prof.L.N.Mashkilleysen  
i prof. L.M.Nisnevich).  
(SKIN--TUMORS)

ZIL'BERGOLITS, Markus Lyudvigovich

[X-ray therapy in dermatology; for radiotherapeutic physicians  
and dermatologists] Rentgenoterapiia v dermatologii; dlia  
vrachei rentgenoterapevtov i dermatologov. Moskva, Medgiz,  
1959. 162 p. (MIRA 13:7)

(X RAYS--THERAPEUTIC USE)

(SKIN--DISEASES)

PERESLENI, N.A.; KARIBOV, Yu.I.; ZIL'BERGOL'TS, M.L.

X-ray therapy of chronic eczemas and neurodermatitis. Med.  
rad. 7 no.9:48-50 S '62. (MIRA 17:8)

1. Iz rentgenoterapevticheskogo otdela (zav. - dotsent I.A.  
Pereslegin) Gosudarstvennogo nauchno-issledovatel'skogo  
rentgen-radiologicheskogo instituta Ministerstva zdravo-  
okhraneniya RSFSR.

NOVODERZHKIN, A.; ZIL'BERING, M.

Raising the level of economic work as an important condition for a further upsurge of production. *Mak.-elev. prom.* 29 no.12:8-9 (MIRA 17:3)  
D '63.

1. Nachal'nik planovo-finansovogo otdela Rostovskogo upravleniya khleboproduktov (for Novoderzhkin). 2. Glavnyy bukhgalter Bel'tskogo kombinata khleboproduktov No.3 (for Zil'bering).

CP

**Oxidation (Ureol) Dyeing.** B. K. Zolberkweit and V. P. Drobnikaya. *J. Applied Chem. (U. S. S. R.)* 9.

812-77 (in German 878) (1930); cf. *Byull. Vsesoyuzn. Nauch.-Issledovatel. Lab. Svyazhemproma* 3-4, 89, 112 (1934); and preceding abstr.—Lab. expts. in the ureol dyeing of mordanted and unmordanted rabbit skins with  $\text{Cr}(\text{NH}_4)_3$  (I) showed that the relation between the adsorption of I and the amt. of adsorbent used may be represented by the Freundlich equation  $x/m = K m^{-n}$  (C. A. 27, 2079). The equation is fully applicable to dyeing of unmordanted skins, but shows some anomaly in the mordanted skins used in small amts. The consumption of  $\text{H}_2\text{O}_2$  is for unmordanted skins 1 mol.  $\text{H}_2\text{O}_2$  to 1 mol of I, for skins mordanted with  $\text{K}_2\text{Cr}_2\text{O}_7$  1.8 mol. of  $\text{H}_2\text{O}_2$  for 1 mol. of I, and for skins mordanted with  $\text{FeSO}_4$  the process is characterized by a strong catalytic decompn. of  $\text{H}_2\text{O}_2$ , which in the presence of considerable amts. of the adsorbent leads to a complete decompn. of  $\text{H}_2\text{O}_2$ . The mechanism of the ureol dyeing of unmordanted skins is explained as a successive course of 3 related processes: the oxidation of I (ureol), the exchange adsorption of the oxidation products by animal fiber and the fixation of the adsorbed dye on the fiber. The process of the exchange adsorption probably sets the equil. of the entire system. The com. dyeing of unmordanted and Cr-mordanted skins is best effected at the possible min. of the liquid coeff. Chas. Blanc

ASTM-BLA 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 INDEX

**The mechanism of oxidative dyeing. I. The mechanism of maturing of aniline black in the dyeing of fur.** H. K. Zuberkweit and L. A. Vasil'ev. *J. Applied Chem. (U. S. S. R.)* 9, 2231-44 (in German 2243) (1936).—Aniline is adsorbed from its soln. (pH 2.0) in very insignificant amt., because of the presence of the same elec. charges in the aniline and the hair in an acid soln. This, in addn. to the fact that the formation of aniline black is possible only in an acid soln. because of its destructive action on the hide, prohibits its use in the usual dip dyeing of the animal hair. The velocity of the formation of emeraldine increases with increase of the concn. of the soln. The oxidation of PhNH<sub>2</sub> is impossible in the absence of moisture. The most favorable moisture content of hair for oxidation of PhNH<sub>2</sub> is 10-12.5% at 20°, increasing with increase in temp., and reaching 13-14% at 40°. The lower limit for the moisture content (10%) of hair is independent of the temp., concn. and amt. of PhNH<sub>2</sub> soln., and the nature of the catalyst used. The air humidity in the drying chamber should correspond to the required equil. of the moisture content of hair. As a result of repeated pasting of fur with the PhNH<sub>2</sub> soln. aniline black accumulates in all histological layers of the hair, producing a deep coloration. The formation of aniline black on hair can be considered a series of consecutive processes: (1) diffusion of crystalloid components of the aniline soln. into the hair; (2) formation of Emeraldine as a result of increase of the concn. of the aniline soln. and of the drying temp.; (3) absorption or mechanical combination of dye of high mol. wt. (Emeraldine or aniline black) by the hair. Final fixation of aniline black on the hair occurs during the final treatment with K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>, alkali treatment and also during the usual dyeing. The oxidation of aniline to emeraldine proceeds probably in a thin layer of water, adsorbed by the micelles of the hair, and its kinetics are detd. to a certain extent by special properties of the adsorbing films, differently from those of usual liquids and solns. Seventeen references. II. The Pringsheim rule in the oxidative dyeing. H. K. Zuberkweit and A. M. Zubin. *Ibid.* 2244-51 (in German 2254-61).—The formation of a membrane hinde of the hair by the mutual pptn. of p-C<sub>6</sub>H<sub>4</sub>(NH<sub>2</sub>)<sub>2</sub> and K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> inhibits further diffusion of p-C<sub>6</sub>H<sub>4</sub>(NH<sub>2</sub>)<sub>2</sub>; the result of this is that the core of the hair remains undyed. The thickness of the membrane depends upon the colloidal structure of the hair, the heavier its structure the thinner the membrane, decreasing with the increase of H<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> concn. in the hair, in accordance with the Pringsheim rule; this is explained this phenomenon in other oxidative dyeing processes and in the preliminary treatment of hair with substances which form an insol. ppt. with dyes in the hair. The structure of hair det. the variations in the dyeing by means of oxidative dyes. Nine references. A. A. Ivanov

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

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CA

PROCESSES AND PROPERTIES INDEX

The mechanism of oxidation dyeing. B. K. Zilberkvetl and A. M. Zubin. *J. Applied Chem.* (U. S. S. R.), 1937-33 (in English 1938) (1938).—Dyeing of 4 samples of white fur pelts with  $p$ - $C_6H_4(NH_2)_2$ , 3-nitro-1,4-phenylenediamine, and with a mixt. of  $p$ - $C_6H_4(NH_2)_2$  and pyrocatechol (8 and 2 g. per l., resp.) was investigated. The intensity, the fulness of color of the dyed wool hair, both for artificial dyeing and for natural pigmentation depends on the dyeing of the central core portion. The core shows a considerably greater adsorptive capacity, relative to the oxidation product of  $p$ - $C_6H_4(NH_2)_2$ , for  $Fe^{++}$  and  $CrO_4^{--}$  than the outer layer. In dyeing by the oxidizing dyes with an  $FeSO_4$  mordant, the accumulation of the latter in the core of the hair causes a particularly intense coloring of the core. A sand dye awn is obtained in this case. In dyeing hair with the same dyes treated under certain conditions with bichromate, the reverse phenomenon was observed, particularly shows in the dyeing awns: the outer layer was intensely dyed, but the core was almost uncolored ("glassy" or "hyperchrome" awn). Undyed inner parts of the hair result from the excessive oxidation of the dye with the excess of bichromate contained in the hair or from a phenomenon of the nature of the Liebig ring formation. On the basis of 2 cases of hair dyeing by  $PbS$  it was shown that a very low degree of dispersion leads to localization of the pigment on the surface of the hair so that it is easily rubbed off by friction. Results are discussed and photographs are appended. A. A. Podgorny.

Common Materials Index

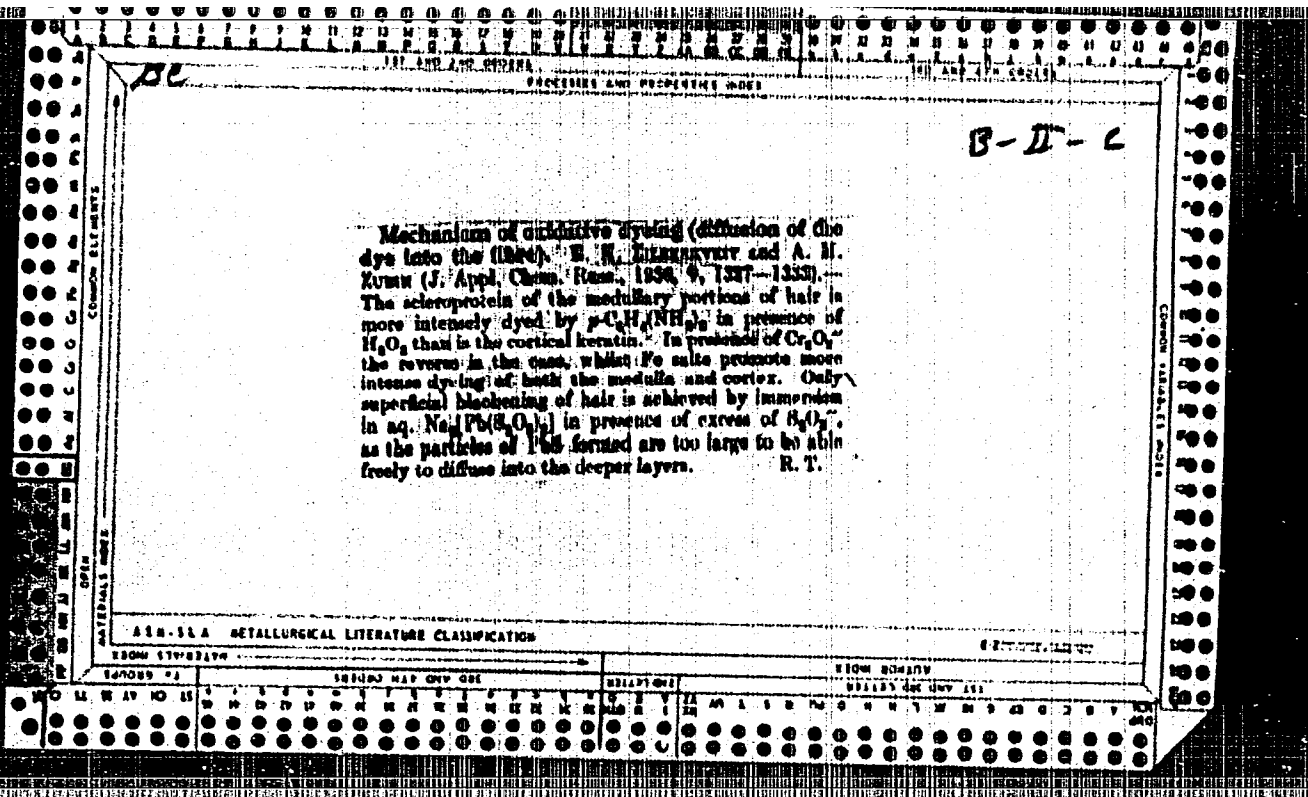
Metallurgical Literature Classification

5300 BOWLING

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531137 ONE ONE ONE





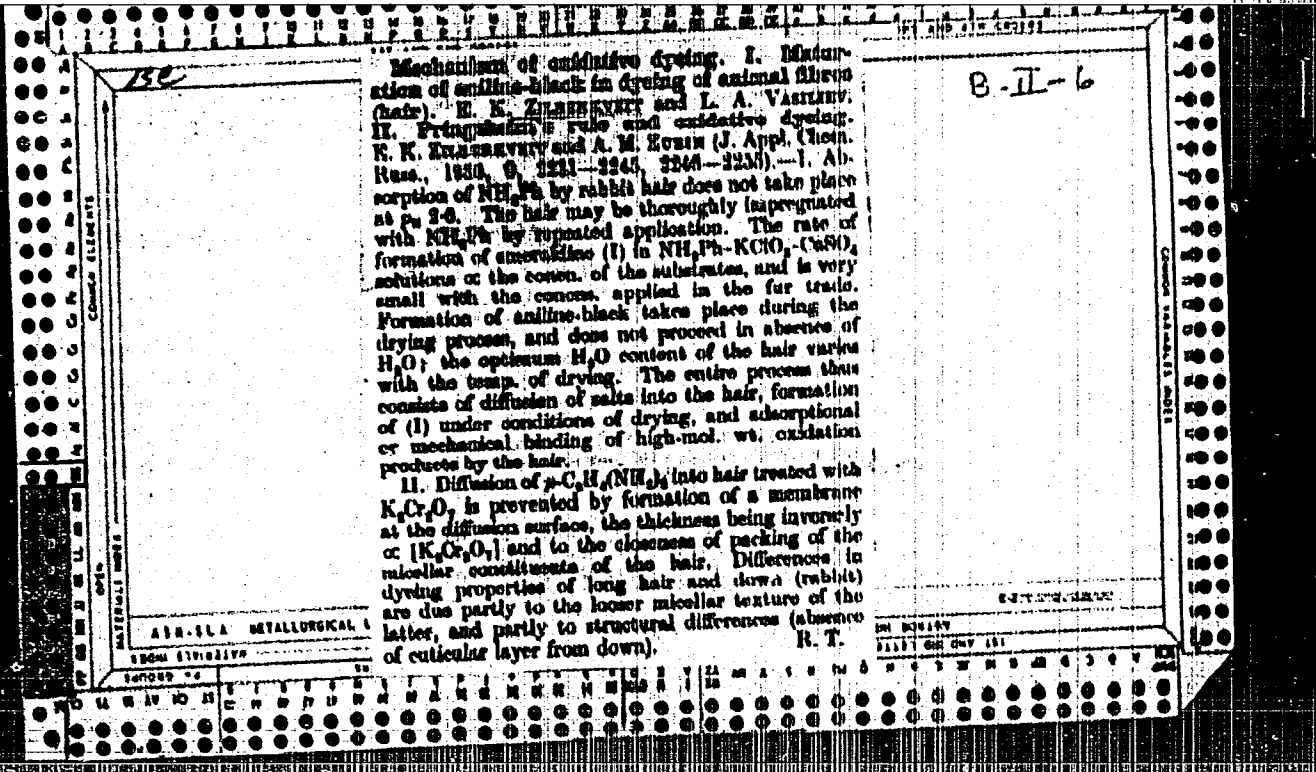
B-U-5

... rapid colorimetric determination of fat content of wood... H. K. Zimmerman and L. A. Vast...  
 LINT (J. Appl. Chem., Res., 1937, 10, 370-377)  
 0.5 g. of wood is extracted with 5 ml. of boiling  $CHCl_3$  or  $CH_2Cl_2$  for 5 min., the solution filtered, the extraction repeated, and the extracts + washings are diluted to 25 ml. Then 1 ml. of  $Ag_2O$  and 10 drops of 20%  $H_2SO_4$  are added to 5 ml. of solution, and the coloration developing after 5 min. is compared (blue filter) with that of a standard (4.5 g. of  $K_2CrO_7$  and 100 g. of  $CaCl_2 \cdot 2H_2O$  in a liter of solution, the coloration of which corresponds with that given by 0.25% of lanolin in  $CHCl_3$ .) R. T.

ABR-51A METALLURGICAL LITERATURE CLASSIFICATION

GENERAL SUBJECTS: METALS, METALLURGY, MINING, FUELS, ORES, AND MINERAL PRODUCTS

CHARACTER SUBJECTS: METALS, METALLURGY, MINING, FUELS, ORES, AND MINERAL PRODUCTS



150

Mechanism of oxidative dyeing. I. Mechanism of aniline-black in dyeing of animal fibers (hair). E. K. ZHANG and L. A. VASILYEV. II. Fringed fibers and oxidative dyeing. R. K. ZHANG and A. M. KOSIN (J. Appl. Chem. Russ., 1930, 6, 2211-2245, 2246-2253).—1. Adsorption of NH<sub>2</sub>Ph by rabbit hair does not take place at P<sub>0</sub> 3-6. The hair may be thoroughly impregnated with NH<sub>2</sub>Ph by repeated application. The rate of formation of aniline-black (I) in NH<sub>2</sub>Ph-KClO<sub>4</sub>-(NaSO<sub>4</sub>) solutions as the concn. of the substrates, and is very small with the concn. applied in the fur trade. Formation of aniline-black takes place during the drying process, and does not proceed in absence of H<sub>2</sub>O; the optimum H<sub>2</sub>O content of the hair varies with the temp. of drying. The entire process thus consists of diffusion of salts into the hair, formation of (I) under conditions of drying, and adsorptional or mechanical binding of high-mol. wt. oxidation products by the hair.

II. Diffusion of p-C<sub>6</sub>H<sub>4</sub>(NH<sub>2</sub>)<sub>2</sub> into hair treated with K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> is prevented by formation of a membrane at the diffusion surface, the thickness being inversely  $\propto$  [K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>] and to the closeness of packing of the micellar constituents of the hair. Differences in dyeing properties of long hair and downa (rabbit) are due partly to the looser micellar texture of the latter, and partly to structural differences (absence of cuticular layer from down). R. T.

B-II-6

PROCESSED AND PROPERTIES MODS

BC

B-II-10

Oxidative dyeing (of leather). K. K. MURTHY and V. P. DINGIRAJA (J. App. Chem. Ind., 1936, 9, 668-676).—The no. of mg. of benzidine bound per g. of untreated leather from an alkaline bath containing  $H_2O_2$  is given by  $HM^2$ , where  $M$  is the wt. of the leather, and  $H$  and  $a$  are constants. The amount of dye adsorbed by leather treated with  $K_2Cr_2O_7$  or  $Fe$  salts is greater, and does not correspond with the above formula, owing probably to formation of lakes and to the catalytic action of  $Fe$  salts. The relative vol. of dye solution should be small in the case of leather treated with  $Cr$ , but not  $Fe$ , salts.

R. T.

ASM-ILA METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

CLASSIFICATION

CLASSIFICATION

PROCESSES AND PREPARATION

27

*ca*

**Rapid colorimetric determination of wool fat.** E. K. Zilberfeld, and L. A. Vasil'ev. *J. Applied Chem.* (U. S. S. R.) 10, 570-7 (in German 577) (1937).— A sample of wool (0.5 g.) is boiled in a test tube provided with a reflux condenser with 5-10 cc. of  $\text{CHCl}_3$  or  $\text{C}_2\text{H}_5\text{Cl}$  and the resulting mixt. is filtered. The residue is washed with pure  $\text{CHCl}_3$  and an aliquot from the combined filtrate is treated with 1 cc. of  $\text{Ac}_2\text{O}$  and 10 drops of concd.  $\text{H}_2\text{SO}_4$  for 3-4 min., and colorimetrically compared with series of standard solns. The standard solns. are prepd. by diluting 10, 20, 30, 40, etc., up to 100 cc. of the reagent  $\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$  763 and  $\text{K}_2\text{Cr}_2\text{O}_7$  4.5 g./l. of water) with water to 100 cc. and are calibrated against known solns. of wool fat in  $\text{CHCl}_3$ . The method is based on the Lachmann and Burchard (*Ber.* 17, 1801 (1885)) color reaction. Thirteen references. A. A. Podgorny

ASTM-114 METALLURGICAL LITERATURE CLASSIFICATION

SIGNATURE

DATE

ZIL'BERMAN, G.S.; SKORIKOVA, A.S.

Study of the activity of some fractions of *Trypanosoma cruzi* lysate on the suspensions of malignant cells. Antibiotiki 8 no. 11:1040-1045 N '63. (MIRA 17:9)

1. Laboratoriya protivorakovykh preparatov (zav. -- chlen-korrespondent AMN SSSR prof. N.G.Klyuyeva) Gosudarstvennogo kontrol'nogo instituta meditsinskikh biologicheskikh preparatov imeni Tarasevicha.

ZIL'BERLEY, B.P.

Synthetic materials in the textile machinery industry. Mashinostroitel'  
no.5:12-14 My '62. (MIRA 15:5)  
(Elastics) (Textile machinery)

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<p>ca</p>		<p>9</p>	
<p>Static method for the determination of the equilibria of metals with carbon dioxide. A. F. Kapustinokh and A. Zilberman. <i>Acta Physicochim. U. R. S. S. S.</i> 4, 405 (1948) (1946); <i>ibid.</i> 30, 7810. -- A method is described by which equilibria of the type <math>M + CO_2 = MO + CO</math> can be investigated at const. pressure of <math>CO_2</math>. It is applied to the equil. between Sn and <math>CO_2</math> with results in agreement with those obtained by dynamic methods. The data correspond with <math>0.5 \log K_p = 606.4/T - 1.1576</math> from 600° to 1100°, <math>\Delta F = 5546 - 10.687T</math> and <math>\Delta H_0 = 3546</math> g.-cal. B. C. A.</p>			
ASS. SLA METALLURGICAL LITERATURE CLASSIFICATION		EXTRACTS INDEX	
MATERIALS INDEX		EXTRACTS INDEX	
COMMON ELEMENTS		COMMON VARIABLES INDEX	
OPEN		MATERIALS INDEX	
GROUPS		EXTRACTS INDEX	



PROCESSED AND PROPERTY IS MARKED

BC

d-1

**Equilibrium of reaction of nickel with carbon dioxide. A. Y. KARUSINKI and A. SILBERMAN.**  
 (Acta Physicochim. U.R.S.S., 1936, 5, 806-816).  
 Equilibrium data for  $\text{Ni} + \text{CO}_2 \rightleftharpoons \text{NiO} + \text{CO}$  have been determined by the method previously described (A., 1934, 1464) between 800° and 1000°. The heat of formation, free energy, and entropy of NiO are calc.  
 F. L. U.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

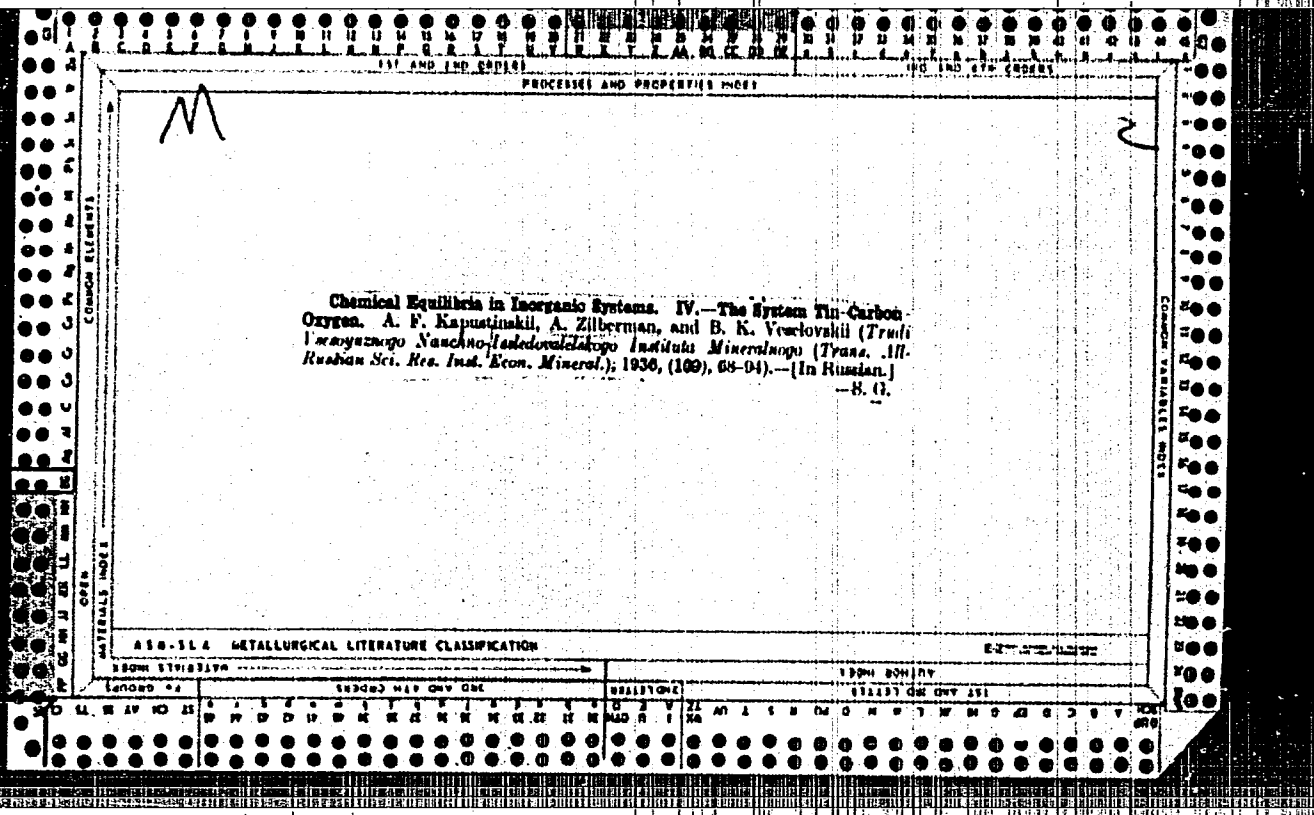
C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	

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*Thermal diffusion and its effect on the measurement of chemical equilibrium. Anna Zilberman. Uspkhi Khim. 5, 1406-13(1930).—A review of previous work. Cf. Britake, Kapustinsky, Zilberman, et al., C. A. 28, 7107, and Acta Physicochimica U. R. S. S. 4, 496(1934). F. H. Rathmann.*

A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION

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ZIL'BERMAN, A.A.; VOLGIN, S.I.; BODRENKOY, A.Ys.

New developments in organizing the overhaul of blast furnaces.  
Metallurg 9 no.3:9-13 Mr '64.

(MIRA 17:3)

1. Trest "Yuzhdomnaremont".

VLASOV, N.I.; ZIL'BERMAN, A.A.; POVERENNYI, I.D.; SAMOFAL, S.V., redaktor;  
VISHNEVSKIY, I.F., redaktor izdatel'stva; ANDREYEV, S.P., tekhnicheskiy redaktor

[Rapid capital repairing of blast furnaces] Skorostnoi kapital'nyi remont domennoi pechi. Khar'kov, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1952. 99 p. (MIRA 9:8)  
(Blast furnaces)

ZIL'BERMAN A.A.

GORA, A.P.; ZIL'BERMAN, A.A.; KULINOK, Ye.A.; MATVEICHEV, A.S.; SEREBRENNIKOV, S.S., redaktor; NEPOMNYASHCHIY, N.V., redaktor; MIKHAYLOVA, V.V., tekhnicheskii redaktor.

[Rapid repair of Martin furnaces] Skorostnye remonty martenovskikh pechei. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po cherno i tsvetnoi metallurgii, 1954. 335 p. (MLRA 7:11)  
(Blast furnaces--Repairing)

Zil'berman, A.A.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002065120013-1"

PHASE I BOOK EXPLOITATION

(ARON AYZIKOVICH)

AUTHORS: Zil'berman, A.A., Kulinok, Ye.A.

TITLE: Repair and Maintenance Handbook for Open-hearth and Blast Furnaces (Spravochnik po remontu domennykh i martenovskikh pechey)

PUB. DATA: Gosudarstvennoye nauchno-tekhnicheskoye izdatel'stvo literatury po chernoy i tsvetnoy metallurgii, Moscow, 1957, 6,000 copies

ORIG. AGENCY: None given

Editors: Gora, A.P., Gurvits, A.I.; Ed. of Publishing House: Mikhaylova, V.V.

PURPOSE: This reference book is intended for engineers and technical personnel engaged in maintenance and overhaul of open-hearth and blast furnaces.

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