

S/143/60/000/004/006/007
A163/A026

A New Method of Drying Coatings of Communication Cables With Stiroflex Insulation

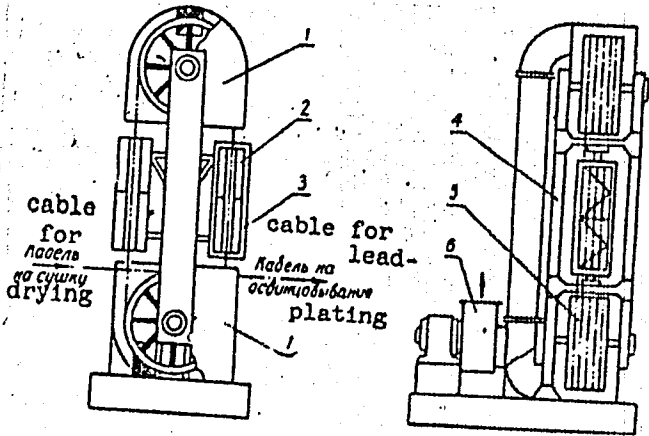


Figure 6: Diagram of the semi-commercial drier. 1 - blast zone; 2 - ceramic radiators; 4 - frame of the drier; 5 - traction wheel; 6 - 98P No 3 (EVR No. 3) ventilator; 3 - frame of the radiators.

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NESEL', Ya.S.; ZUYEV, A.I., elektromekhanik

Remote control of the condition of the sectionalizing point. Elek. i tepl.
tiaga 7 no.11:21-22 N '63. (MIRA 17:2)

1. Nachal'nik tyagovoy podstantsii Gzhel' Moskovskoy dorogi (for Nesel').
2. Podstantsiya Gzhel' Moskovskoy dorogi (for Zuyev).

ACC NR: AT6034346

SOURCE CODE: UR/0000/66/000/000/0230/0236

AUTHOR: Zuyev, A. I. (Chelyabinsk)

ORG: none

TITLE: Three-layer scheme for numerically integrating a gas dynamic and nonlinear heat conduction equation

SOURCE: Chislennyye metody resheniya zadach matematicheskoy fiziki (Numerical methods of solving problems in mathematical physics); sbornik statey. Moscow, Izd-vo Nauka, 1966, 230-236

TOPIC TAGS: gas dynamics, numeric solution, finite difference, heat conduction, nonlinear differential equation

ABSTRACT: A three-layer implicit numeric scheme is outlined for continuously integrating nonlinear gas dynamic equations. The governing two-dimensional equations of motion are given in Lagrange coordinates, or as

$$\frac{\partial u}{\partial t} + \frac{\partial p}{\partial q} = 0, \quad \frac{\partial v}{\partial t} - \frac{\partial u}{\partial q} = 0, \quad \frac{\partial c}{\partial t} + p \frac{\partial \rho}{\partial t} = 0.$$

The finite difference approximation to these equations is given by the set

$$u_i^{n+1} - u_i + a_i(p_{i+1/2}^{n+1} + \omega_{i+1/2}^{n+1} - p_{i-1/2}^{n+1} - \omega_{i-1/2}^{n+1}) = 0,$$

$$v_{i+1/2}^{n+1} - v_{i+1/2} - b_{i+1/2}(u_{i+1}^{n+1} - u_i^{n+1}) = 0,$$

$$c_{i+1/2}^{n+1} - c_{i+1/2} + (p_{i+1/2}^{n+1} + \omega_{i+1/2}^{n+1})(v_{i+1/2}^{n+1} - v_{i+1/2}) = 0,$$

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UDC: 517.9:533.7

ACC. NR: AT6034346

where the Von Neumann artificial viscosity is used:

$$\omega_{i+1/2}^{n+1} = \begin{cases} \frac{c}{v_{i+1/2}^{n+1}} (u_{i+1}^{n+1} - u_i^{n+1})^2 & \text{при } u_{i+1}^{n+1} - u_i^{n+1} < 0, \\ 0 & \text{при } u_{i+1}^{n+1} - u_i^{n+1} > 0. \end{cases}$$

The above set is linearized by a Taylor expansion of the nonlinear terms. The stability condition for the solution is specified by

$$|i_{i+1/2}| > \delta_i \quad (\delta_i > 0).$$

To illustrate the technique, two examples are considered: the flow of an ideal gas with initial and boundary conditions given by

$$u(0, r) = 0, \quad p(0, r) = 0, \quad v(0, r) = 0.05; \quad u(t, 0) = 0.2, \quad v(t, 0) = 0,$$

and a one-dimensional heat conduction problem with variable conductivity, given by

$$\frac{\partial T}{\partial t} = \frac{\partial}{\partial x} \left(aT^a \frac{\partial T}{\partial x} \right).$$

The results are given in tabular as well as in graphical forms. The author expresses his thanks to A. A. Bunatyan for his valuable advice and continued interest in the work. Orig. art. has: 12 equations, 3 tables, and 2 figures.

SUB CODE: 20/12/ SUBM DATE: 23Apr65/ ORIG REF: 007

KOPELEV, Yu.K., kand.tekhn.nauk; ZUYEV, A.I., kand.tekhn.nauk

Kinetics of radiation convective pulsatory drying of cable
insulation. Sbor.nauch.trud.IEI no.10 pt.2:52-61. 162. (MIRA 16:9)

ZUYEV, A.I.; GLAZUNOV, P.D.; DANILENKO, N.M.; KISELEV, I.N.;
STRELKOV, M.N.; IOFINOV, S.A., prof., red.;
CHAPSKIY, O.U., red.; BARANOVA, L.G., tekhn.red.;
FRIDMAN, Z.L., tekhn. red.

[Concise manual for the agricultural machinery operator]
Kratkii spravochnik mekhanizatora sel'skogo khoziaistva.
[By] A.I.Zuev i dr. Moskva, Sel'khozizdat, 1963, 583 p.
(MIRA 17:1)

(Agricultural machinery)

GLAZUNOV, P.D., starshiy inzh.; DANILENKO, M.M., starshiy inzh.; ZHUKOV, V.K., starshiy inzh.; ZUYEV, A.I., obshchiy red.; ZOTOVA, A.P., red.; TIKHONOVA, I.M., tekhn.red.

[Efficiency-improving suggestions from agricultural machinery operators; practices of machinery operators on collective farms and state farms and at repair and improvement stations] Ratsionalizatorskie predlozheniia mekhanizatorov sel'skogo khozinstva; iz opyta raboty mekhanizatorov kolxozov, sovkhozov, remontno-tekhnicheskikh i meliorativnykh stantsii Leningradskoi oblasti. Leningrad, Lenizdat, 1959. 119 p. (MIRA 13:3)

1. Leningradskoye oblastnoye upravleniye sel'skogo khozyaystva (for Glasunov, Danilenko, Zhukov). 2. Glavnyy inzhener Leningradskogo oblastnogo upravleniya sel'skogo khozyaystva (for Zuyev). (Agricultural machinery)

ZUYEV, A.I., teknik; SOKOLOVICH, B.M., inzhener.

Determining the nature of troubles inside transformers on the
basis of the composition of gases evolved in a gas relay. Elek.
sta. 27 no.12:55 D '56. (MLRA 10:1)
(Electric transformers--Testing) (Gases--Analysis) (Electric relays)

ZUYEV, A.I., kand.tekhn.nauk; KOPTEL'OV, Yu.K., inzh.; SOROKIN, A.F.,
prof., doktor tekhn.nauk

New way of drying communication cable covers with styroflex insulation. Izv.vys.ucheb.zav.; energ. 3 no.4:104-112 Ap '60.
(KIRA 13:6)

1. Ivanovskiy energeticheskiy institut imeni V.I. Lenina.
Predstavlena kafedroy promteplotekhniki.
(Electric insulators and insulation--Drying)

KOCHUROV, Nikolay Ivanovich; TSVETNIKOV, Viktor Ivanovich; ZUYEV,
A.I., inzh., retsenzent; MYADELETS, O.V., inzh., red.;
SIMONOVSKIY, N.Z., red. izd-va; SHCHETININA, L.V., tekhn.
red.

[Hydraulic systems of tractors and agricultural machines]
Gidravlicheskie sistemy traktorov i sel'skokhoziaistven-
nykh mashin. Moskva, Mashgiz, 1962. 176 p. (MIRA 15:11)
(Tractors--Hydraulic equipment)
(Agricultural machinery--Hydraulic equipment)

ZHDANOVSKIY, Nikolay Stepanovich; ZUYEV, Aleksey Ivanovich; CHAPSKIY,
O.U., red.; BARANOVA, L.G., tekhn. red.

[Testing and running of tractor engines without braking
(under operating conditions)] Bestormoznaia proverka i ob-
katka traktornykh dvigatelei (v ekspluatatsionnykh usloviakh)
Leningrad, Sel'khozizdat, 1962. 53 p. (MIRA 15:9)
(Tractors--Engines--Testing)

ZUYEV, A. I.: Master Tech Sci (diss) -- "Investigation of the process of drying materials in liquid media". Moscow, 1958. (Min Higher Educ USSR, Moscow Order of Lenin Power Engineering Inst), 150 copies (KI, No 6, 1959, 133)

ZUYEV, A. I. (I D. R.)

27217: VLIYANIE - Guminovykh kislot na razvitie korney u razlichnykh sel' - skokhozyaystvennykh rasteniy. -- Avt: L. A. KHRISTEVA, P. A. NOVEK-KHLEBNIKOV, Doklady vsesoyuz. Akad. S.-KH. Nauk Im. Lenina, 1949, Vyp. 8, s. 23-28. * Bibliogr: 5 Nazv

SO: Letopis' Zhurnal'nykh Statey, Vol. 36, 1949.

TROSHIN, P.V., kand.tekhn.nauk, dotsent; FEDOTOV, M.P., inzh.; SOKOLOV, Yu.P., inzh.; BORISOV, B.G., kand.tekhn.nauk; MALKOV, Yu.A., inzh.; SOROKIN, A.F., doktor tekhn.nauk, prof. [deceased]; ZINKEV, A.I., kand.tekhn.nauk; KOPELOV, Yu.K., kand.tekhn.nauk; YERSHOV, Yu.G., inzh.; BROVKIN, L.A., kand.tekhn.nauk, dotsent; POTOSKUYEV, M.P., kand.tekhn.nauk, dotsent; PYATACHKOV, B.I., kand.tekhn.nauk, dotsent; ROMANOVA, T.M., kand.tekhn.nauk, dotsent

Abstracts of completed research works contracted for the national economy. Sbor. nauch.trud. IEI no.10 (1962) '62.

(MIRA 16:9)

*

ZUYEV, Anatoliy Konstantinovich; SAVEL'YEVA, Ye., red.

[Self-regulation in technology and living nature] Samo-
nastroyka v tekhnike i zhivoi prirode. Riga, Izd-vo AN
Latv.SSR, 1964. 71 p. (MIRA 17:7)

ALABUZHEV, P.M., prof.; BONDAREV, V.V., inzh.; ZUYEV, A.K., inzh.; KOPEYKIN,
G.F., inzh.; TRUS', A.M., inzh.; YARUMOV, A.M., inzh.

Dynamic strength of springs in impact action machines. Izv.vys.
ucheb.zav.; gor.zhur. 7 no.12:58-64 '64. (MIRA 18:2)

1. Novosibirskiy elektrotekhnicheskiy institut. Rekomandovana
kafedroy teoreticheskoy mekhaniki.

ALABUZHEV, P.M., doktor tekhn. nauk; ZUYEV, A.K., assistant;
KUZ'MENKO, Yu.P., assistant; TSIVINSKIY, Yu.P., aspirant

Investigating the performance of an electromechanical
spike driver. Izv. vys. ucheb. zav.; mashinostr. no.2:
144-158 '63. (MIRA 16:8)

1. Novosibirskiy elektrotekhnicheskiy institut.

ALABUZHEV, P.M.; ZUYEV, A.K.; YAHUNOV, A.M.

Increasing the efficiency of a displaced cam gear at a constant
zero angle of pressure. Izv. SO AN SSSR no. 6 Ser. tekhn. nauk no. 2;
99-103 '64. (MIRA 17:10)

1. Novosibirskiy elektrotekhnicheskii Institut.

ZUYEV, A.M.

Nature of the temperature maximum coefficient of dry external friction
of metals and alloys in air. Izv.vys.ucheb.zav.;fiz. no.2:217-226
'60. (MIRA 13:8)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova.
(Friction)

ZUYEV, A.M.

Temperature effect on the coefficient of dry friction of tin,
aluminum, copper, and iron on aluminum. Izv. vys. ucheb. zav.;
fiz. no. 2:181-183 '64. (MIRA 17:6)

1. Kurganskiy mashinostroitel'nyy institut.

ZUYEV, A.M.

Effect of temperature on the coefficient of dry external friction
of metals. Izv.vys.ucheb.zav.; fiz. no.3:235-236 '60.

(MIRA 13:7)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova.
(Friction)

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S/139/60/000/03/043/045
E032/E314

AUTHOR: Zuyev, A.M.

TITLE: The Effect of Temperature on the Coefficient of Dry External Friction of Metals

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No 3, pp 235 - 236 (USSR)

ABSTRACT: The available published information on the coefficient of dry external friction shows that different workers have reached conflicting conclusions. Some workers find that $\mu(T)$ has a maximum (Refs 1, 3-8), while others find that the coefficient decreases with temperature (Refs 3,9). Yet other workers have found that μ monotonically increases with temperature (Refs 2,3). The aim of the present work was to settle this question by investigating the friction of Sn¹⁷, Pb¹⁷, Al¹⁷, Ag and technical Fe¹⁷ on steel-3¹⁷ and also with Cu¹⁷ and Al. A flat rotating ring and cylindrical specimens 2 mm in dia were employed in these experiments. The rotating ring was heated by a spiral supplied through sliding contacts. In order to reduce the temperature drop between the ring and the specimen, the latter was

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very short (5 mm) and was insulated from its holder by asbestos. The temperature on the friction surface was measured with an Fe-constantan thermocouple sliding together with the specimen. The frictional force was recorded with the aid of an automatic pen recorder. In order to exclude oxides and abrasive particles, each surface was carefully cleaned and had a purity of class 8. The specimen was always polished in a fixed position so that the surface of contact was always the same. The specimen was moved at the rate of 1 cm/sec and the pressure was 10 kg/cm² for Sn, Al, Ag and Fe and 6.5 kg/cm² for Pb. Figure 1 shows the coefficient of friction on steel-3 as a function of temperature for Sn (crosses), Al (triangles), Pb (open circles), Fe (points) and Ag (open squares). For all these metals, except for Pb, the coefficients of friction remain constant between room temperature and 140 - 150 °C. At about 140 - 150 °C μ begins to increase at first

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slowly and then rapidly, reaching a maximum at about 220 - 250 °C. Further heating produces a decrease in the friction coefficient. Above 400 °C the friction coefficients for Al, Ag and Fe assume almost constant and approximately equal values (0.53- 0.58). The surface of the ring was found to be tarnished at about 200 °C. At first, the oxides were not very stable and were easily removed by the sliding specimen. After 250 °C this was no longer the case and the oxides could not be removed with Al, Ag and Fe, solid solutions of type P-18, BK-8, kōnnen-metal and mineral ceramics. As soon as the specimen could not remove the oxides, a decrease in μ was observed. Further increase in the temperature led to an increase in the thickness of the oxide film, which was indicated by a change in the colour of the surface. It was found experimentally that a maximum was also present in the case of the above solid solutions. When the specimens were made to follow a spiral, a maximum was still found to be present within the same temperature

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limits. The character of the temperature curves is not altered when the steel ring is replaced by a copper ring. The general conclusion is that the main contribution to the change in the coefficient of dry friction of metals in air is due to the oxides formed on the surface. There are 1 figure and 10 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskii institut imeni S.M. Kirova (Ural Polytechnical Institute imeni S.M. Kirov)

SUBMITTED: November 5, 1959

Card 4/4

ACC NR: AP6022861 SOURCE CODE: UR/CIN5/66/000/002/0022/0025

AUTHOR: Zuyev, A. M. (Candidate of physico-mathematical sciences, Docent)

ORG: None

TITLE: Effect of pressure on the thermal coefficient of dry titanium-titanium friction in air

SOURCE: IVUZ. Mashinostroyeniye, no. 2, 1966, 22-25

TOPIC TAGS: titanium, metal friction, pressure effect, TEMPERATURE COEFFICIENT

ABSTRACT: Experimental data are given on the kinetic coefficient of dry friction for titanium rubbing against titanium as a function of temperature at various pressures. The end surface of a cylindrical titanium specimen 5 mm long and 2 mm in diameter was subjected to sliding friction against a titanium disc rotating in the horizontal plane. A strain gage and potentiometer were used for recording the force of friction, and an iron-constantan thermocouple combined with a potentiometer was used for temperature measurement. The sliding rate was 1 cm/sec at pressures of 5, 10, 20, 30, 40 and 50 kg/cm². The products of wear were not removed. The results show a reduction in temperature and increase in the slope of curves showing friction as a function of temperature as the pressure is raised. Isotherms of friction for various pressures show an insignificant change in the coefficient of friction at pressures below 20 kg/cm². The

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ACC NR: AP6022861

effect of pressure begins to increase at 30 kg/cm^2 with a stronger effect at higher temperatures. The relationship between pressure and friction is due to oxidation and changes in the mechanical properties of titanium with temperature. An increase in the coefficient of friction is observed at lower temperatures when the pressure is increased. This is due to thin oxide films which are bound strongly to the metal surface. Destruction of these films requires greater force. It is shown that the friction process is reversible by measuring the change in the coefficient of friction during cooling from 650°C to room temperature. The coefficient of friction remains practically constant at pressures below 30 kg/cm^2 and temperatures below 400°C . The effect of sliding rate will be considered in a future article. The paper was presented for publication by Candidate of physical and mathematical sciences K. Davydov. Orig. art. has: 4 figures.

SUB CODE: 11, 20/ SUBM DATE: 18Sep64/ ORIG REF: 008

Card 2/2 *hh*

~~ZUYEV, A.P., inzhener.~~

New method for surveying and calculating plans for railroad lines.
Transp. stroi. 5 no.8:19-22 0 '55. (MKRA 9:1)
(Railroad engineering)

DARKOV, Ye.A.; RATNER, S.B.; ZUYEV, A.P.; GURARIY, M.G.

Methods for impact bending tests of plastics. Standartizatsia
27 no.5:41-44 My '63. (MIRA 16:6)

(Plastics--Testing)

KASATKINA, L. A.; ZUYEV, A. P.

Effect of the temperature of special treatment of manganese dioxide
on the rate of oxygen isotope exchange. Kinet. kat. 6 no. 3:476-485
My-Je '65.

(MIRA 18:10)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni Mendeleeva.

L-11,608-66 EAT(a)/T/EKP(j) DJ/RH
ACC NR: AP6001502 (A)

SOURCE CODE: UR/0191/65/000/012/0025/0051

AUTHORS: Kanavets, I. F.; Andrianova, L. D.; Zuyev, A. P

ORG: none

TITLE: Evaluation of friction and wear of plastic frictional materials

SOURCE: Plasticheskiye massy, no. 12, 1965, 45-51

TOPIC TAGS: friction, friction coefficient, phenolic plastic, polyformaldehyde plastic / K-217-57 resin, K-F-3 resin, K-F-3M resin, K-248-58 resin, K-248-58N resin, K-248-58S resin

ABSTRACT: The resistance to wear and the coefficient of friction of plastic frictional materials differing in the content of binding substances, fillers, and additives were evaluated from data obtained in the laboratory, testing units, and in full scale experiments on a heavy duty friction tester. The investigated materials were: synthetic rubber-based and phenolic-formaldehyde resins K-217-57, K-F-3, K-F-3M, K-248-58, K-248-58N, and K-248-58S. The last two were K-248-58 improved by adding 5% of polar additives. A simple disk-type laboratory machine is suggested for rapid evaluating of the quality of friction materials. The main advantage of the machine is its ability to change the equipment temperature and to provide large changes of contact temperature on the friction surface by regulating the temperature

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ACC NR: AP6001502

of friction disks. Graphs showing wear and friction force as functions of pressure, coefficient of friction as a function of temperature, and wear as a function of friction coefficient are shown. It was established that the wear of plastic friction materials is not a direct function of mechanical characteristics of the material itself, as the properties of the material on the friction surface change greatly. Ye. Ye. Glukhov participated in construction of the experimental testing machine. Orig. art. has: 7 figures, 3 tables, and 3 equations.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 013

TS
Card 2/2

KANAVETS, I.F.; ANDRIANOVA, L.D.; ZUYEV, A.N.

Evaluation of the friction and wear characteristics of friction
materials based on plastics. Plant. massy no. 12 s45-50 '65
(MTRM 19s1)

ZUYEV, A.M.

Effect of abrasion particles on the isothermal coefficient of dry
friction of metals in the air. *Izv. vys. ucheb. zav.; fiz. no. 5:*
171-172 '63. (MIRA 16:12)

1. Kurganskiy mashinostroitel'nyy institut.

ZUYEV, A.M., starshiy prepodavatel'

Effect of oxides on the nonlubricated friction ratio of metal bodies
in the air. *Izv.vys.ucheb.zav.; mashinostr.* no.6:200-207 '63.

(MIRA 16:10)

1. Kurganskiy mashinostroitel'nyy institut.

ACCESSION NR: AR3010527

S/0058/63/000/009/D073/D073

SOURCE: RZh. Fizika, Abs. 9D540

AUTHOR: Zuyev, A. M.

TITLE: Optical estimate of oxide thickness

CITED SOURCE: Izv. Kurganskogo mashinostroit. in-ta, v. 1, 1962, 56-59

TOPIC TAGS: oxide film, optical measurement, reflection, intensity thickness relation

TRANSLATION: A formula is derived for the intensity of light reflected from the surface of a metal coated with a film of oxide. The derivation takes into account the absorption in the film and only a single passage of the ray through the film and back. Interference is disregarded (the two intensities are summed). The for-

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mula shows that the intensity depends exponentially on the thickness. By investigating the time variation of a photocurrent proportional to the intensity, it is possible to study the growth of the thickness of a film, and also the variation of the refractive index. P. Kard.

DATE ACQ: 14Oct63

SUB CODE: PH

ENCL: 00

Card 2/2

USSR/Medicine - Pediatrics Nov/Dec 48
Medicine - Toxicosis, in Infants and Children

"Toxicosis Among Newborn Babies," A. S. Zuyev,
Diagnostic Lab, Inst of Vaccines and Serums,
Maternity Hosp imeni Prof Snegirev, 4½ pp

"Vop Ped i Okhran Mater i Det." No 6

In Apr 47, there were 25 cases of toxicosis among
newborn infants at the maternity hospital. De-
scribes symptoms of disease. Performed autopsies
on dead infants. Isolated B. coli from intestine.
Shows the bacteria isolated were causative
agents of toxicosis.

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SIZIKOVA, Z.G.; ZUYEV, A.S.; GINEBURG-KAMINSKAYA, H.N.

Chronic dysentery in infants and its therapy by the Zemskii's method. Vopr. pediat. 20 no. 3:27-33 May-June 1952. (CIML 22:4)

1. Of the Department of Children's Diseases (Head -- Doctor Medical Sciences Prof. Gornitskaya) and of the Department of Microbiology (Head -- Doctor Medical Sciences Prof. Kosmodamianskiy), First Leningrad Medical Institute imeni I. P. Pavlov (Director -- Prof. N. Ye. Kashkarov).

ZUYEV, A. S.

USSR/Medicine - Dysentery

Mar 53

"Atypical Strains of Dysentery Bacilli Isolated
From Children Suffering From Chronic Dysentery,"
A. S. Zuyev, Chair of Microbiol, First Leningrad
Med Inst imeni I. P. Pavlov

"Zhur Mikrobiol, Epidemiol, i Immunobiol" No 3,
p 79

Describes atypical Hiss-Flexner bacilli which Zuyev
isolated from patients. Some of the bacilli were
similar to B. coli from the biochemical standpoint.

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ZUYEV, A.S.; NOVOSELOVA, A.I.; LIKINA, I.V.

Developing methods for the commercial production of O and H diagnostic antigens and their use in the diagnosis of Salmonella infections. zhur.mikrobiol., epidem. i immn. 27 no.3:42-49
Mr' 56. (MIRA 9:7)

1. Iz Leningradskogo instituta vaktsin i syvorotok.
(SALMONELLA INFECTIONS, diagnosis,
serol., prep. of antigens (Rus))
(ANTIGENS AND ANTIBODIES,
antigen prod. for diag. of Salmonella infect. (Rus))

2082, 11.5.
GOLIKOVA, Ye.M., kandidat meditsinskikh nauk; ZUYEV, A.S.

Using vikasol in dysentery in children. ~~Pediatrics~~ ~~no. 4:52-57~~
Ap '57. (MIRA 10:10)

1. Iz kliniki infeksionnykh bolezney (zav. - dotsent N.V.Chernov)
I Leningradskogo meditsinskogo instituta imeni akad. I.P.Pavlova
(DYSENTERY) (MENADIONE)

ZUYEV, A.S.

Bacterial Vi-diagnosticum for the detection of chronic carriers
of Salmonella typhosa. Zhur.mikrobiol.epid. i immun. 30 no.2:51-56
F '59. (MIRA 12:3)

1. Iz Leningradskogo instituta vaktsin i sыворотok.
(TYPHOID FEVER, transm.
carriers, Vi-hemagglut. method of detection (Rus))
(HEMAGGLUTINATION,
Vi-hemagglut. method of Salmonella typhosa carrier
detection (Rus))

ZUYEV, A.S.; LIKINA, I.V.

Use of complete antigens for preparation of highly active agglutinating
O-sera against ~~the~~ *Shigella* of the basic O groups, Zhur. mikrobiol.,
epid. i immun. 41 no.1:84-90 Ja '64. (MIRA 18:2)

1. Leningradskiy institut vaktain i syvorotok.

SHVARTSMAN, Ya.S.; KARPOV, M.K.; ZUYEV, A.S.

Immunological reactions of isolated cells. Report No. 1:
Antibody synthesis by single cells isolated from animals
immunized with two antigens. Zhur. mikrobiol., epid. i
immun. 41 no.10:43-47 '64. (MIRA 18:5)

1. Leningradskiy Institut vaktain i syverotok.

ZUYEV, A.S.

Biological characteristics of a new Salmonella type with an α - β -phasic variation. Zhur. mikrobiol., epid. i immun. 40 no.11:21-23 N '63.

1. IZ Leningradskogo instituta vaktain i syvorotok.

ZUYEV, A.S.; LIKINA, I.V.

Experience in obtaining phase-specific sera in immunization
of animals with H antigens of Salmonella. Zhur. mikrobiol. epid.
i immun. 33 no.10:7-12 0'62 (MIRA 17:4)

1. Iz Leningradskogo instituta vaktsin i syvorotok.

ZUYEV, A.S.

Preparation of monoreceptor phase II H serums for the identification of Salmonella. Zhur. mikrobiol., epid. i immunit. 40 no.1:66-69'63. (MIRA 16:10)

1. Iz Leningradskogo instituta vaktsin i syvorotok.

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ZUYEV, A.V.

Underground waters of the Sayan-Altai fold area. Trudy
VSEGEI 101:152-198 '63. (MIRA 17:9)

YANOV, E.N.; PREDTECHENSKIY, N.N.; POLEVAYA, N.I.; MURINA, G.A.;
MIRKINA, S.L.; ISKANDEROVA, A.D.; YEFIMOV, K.P.;
CHEN' YUY-VEY [Ch'ŕn Yŭ-wei]; TITOV, N.Ye.; PANTELBYEV, A.I.;
KOCHEGURA, V.V.; GIRFANOVA, O.M.; ZUYEV, A.V.; NIKOL'SKIY, Yu.I.;
BURE, G.N.

Problems of the methods of geological investigations. [Trudy]
VSEGEI 92:91-98 '63. (MIRA 17:4)

ZUYEV, A.V.

Conditions governing the migration of ore mineralization in natural waters of the Eastern Sayan Mountains. Inform.sbor.VSEGEI no.56:65-78 '62. (MIRA 17:1)

ZUYEV, A.V.; SERGHEYEV, V.A.

Relationship between the water discharge of springs and
fractures in water-bearing rocks. Vest.LGU 14 no.18:
43-49 '59. (MIRA 12:8)
(Rocks--Permeability) (Springs)

ZUYEV, A.V.

Significance of waters of the free circulating zone in prospecting for petroleum and gas sources (as in one of the Second Baku regions). Inform. sbor. VSEONI no.4:104-111 '56. (MLRA 10:4)
(Water, Underground) (Second Baku--Prospecting)

L 7793-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AP5027632

SOURCE CODE: UR/0109/65/010/011/2077/2081

AUTHOR: Avak'yants, G. M.; Zuyev, A. V.; Murygin, V. I.;
Skripnikov, Yu. S.; Surov, V. P.; Tserfas, R. A.

ORG: none

TITLE: Amplifying and oscillating properties of silicon diodes with gold-doped base

SOURCE: Radiotekhnika i elektronika, v. 10, no. 11, 1965, 2077-2081

TOPIC TAGS: silicon diode, semiconductor diode

ABSTRACT: The results of an experimental investigation of the operation of a silicon diode as a voltage amplifier and as an oscillator are reported. A simple amplifier circuit consisting of a capacitor in series with the diode developed a voltage gain of 18-20 and a power gain of 200-300; its resonance frequency and

Card 1/2

UDC: 621.382.2:546.28:621.375+621.373

L 7793-66

ACC NR: AP5027632

passband depended on the bias current; its maximum sensitivity was 5--10 mv, and in some specimens, 200--300 mv. The noise in such a circuit was incoherent, sinusoidal, and had a maximum coinciding with the resonant frequency. As an oscillator, the silicone diode developed a practically sinusoidal waveshape; both its frequency and amplitude depended largely on the bias current and external capacitance. Orig. art. has: 7 figures.

SUB CODE: 09 / SUBM DATE: 05Jun64 / ORIG REF: 004 / OTH REF: 001

nw

Card 2/2

SVIRIDOV, Yu.B.; ZUYEV, B.A.

Jet ignition in light engines. Trudy Lab.dvig. no.4:108-123 '58.

(MIRA 12:11)

(Gas and oil engines--Ignition)

SVIRIDOV, Yu.B.; ZUYEV, B.A.

Investiating the operation of a flame-ignition engine with air
fuel atomization into the precombustion chamber. Trudy Lab.dvig.
no.5:94-110 60. (MIRA 14:3)

(Gas and oil engines--Testing)

Znyev, B.A.

26 (1.4) PIRAME I BOOK EXHIBITION SOV/2543

Andealya usak SSSR. Laboratoriya Evigatsley

Teoriya, konstruktivnye, raschet i ispytaniye dvigatelya vnutrennego zapaleniya (Theory Design, Calculation and Testing of Internal Combustion Motors) Motor, Izdatel'stvo, 1958, 174 p. (Series: Naft. Trudy, Vyp. 4) Seriya slip inserted. 3,000 copies printed.

Ed. of Publishing House: V.M. Klementov; Tech. Ed.: T.A. Frusakova; Editorial Board: M.D. Apsharov, Doctor of Technical Sciences, M.M. Zagryazkin, Candidate of Technical Sciences, Yu. B. Sviridov, Candidate of Technical Sciences, S.Z. Irrantsev, Engineer, and E.G. Yevgrafov, Engineer.

PURPOSE: This book is intended for workers of scientific research institutes, students of schools of higher education (technical, design bureaus), and to provide exchange of experimental information on the thermodynamics of internal combustion engines.

CONTENTS: This collection consists of 14 articles based mainly on research work done by the author in 1955-1956. Part I is devoted to working processes in gas turbine power plants and to theoretical and experimental work connected with investigation of the flow of gases. Part II contains articles on the investigation of processes in piston engines. Part III deals with the measurement of high temperatures of gases. The collection is number 4 of the Transactions of the Engine Laboratory of the Academy of Sciences, USSR. No personalities are mentioned. There are no references.

10. Dopolnitelnyy, A.P. [deceased], and Yu. B. Sviridov. Development of Air-Cooled Engines in Czechoslovakia. Descriptions and technical data for B types (Z-57, Z-114, Z-118, Z-212, Z-600, Z-603F, Z-603S) of the Jatre air-cooled engines are given. Jetator air cooling systems are explained at some length.

11. Sviridov, Yu. B., and E.L. Zhukov. Flame-pilot Ignition in Small Engines is concerned with the comparison of flame-pilot ignition and normal ignition. A diagram of the experimental results is given. Results are shown on graphs and by formulas. There are 4 Soviet references.

12. Vasil'yev, B.J., and A.Y. Shurinov. Friction of Parts in the Piston Component of the GAZ-20 Engine of type GAZ-20 were investigated in the Engine Laboratory of the HZHS Academy of Sciences in cooperation with the Engine Laboratory of the HZHS Academy of Sciences in the form of tables and graphs. Tests were made in liquid engine design. There are 4 references: 2 Soviet, and 1 English.

13. Shurinov, A.Y. Investigation of Turbine Engines Operating on Various Types of Fuel. Part II. Justification for Establishing Unified Engine Families. This article is the second part of an article published in Trudy Inzhenernoy Tekhnicheskoy Shkoly, No. 3, on the basis of an analysis in this article the author concludes that the utilization of engines of various power and operating conditions for the same fuel is indicated from the point of view of production, economy in operation and general economy.

PART III. METHOD AND APPARATUS FOR INVESTIGATIONS

14. Zagryazkin, M.M., and M.M. Kyrilov. Method of Nonstationary Measurement of High Temperature of Gases. The author defines temperature measurement, deduces equations of the ideal curve of heating, describes the construction and experimental verification of the instrument. The author concludes that the method of nonstationary measurement of high temperatures is based on the possibility of calculating the true temperature of a gas by the temperature curve of the flow indicated by a thermocouple.

ZUYEV, B. M.

Biographical Bibliography

RUSSIAN BOOK EVALUATION 807/1042

Polymerization-Induced Stress-Strain Anisotropy Study (Abstracts)
13-25. Article 1978 (Optical Polarization Method for Stress Analysis)
Presentations at the Conference of Polymer 1978, [Leningrad] Izdat.
Khimicheskoye Nauki, 1980, 451 p. Article 619 Abstract. 2,000 copies printed.

14. Kuznetsov, M. I. 1978. (Abstracts) Izdat. Khim., Moscow, 1978, 451 p. Article 619 Abstract. 2,000 copies printed.

15. Kuznetsov, M. I. 1978. (Abstracts) Izdat. Khim., Moscow, 1978, 451 p. Article 619 Abstract. 2,000 copies printed.

16. Kuznetsov, M. I. 1978. (Abstracts) Izdat. Khim., Moscow, 1978, 451 p. Article 619 Abstract. 2,000 copies printed.

17. Kuznetsov, M. I. 1978. (Abstracts) Izdat. Khim., Moscow, 1978, 451 p. Article 619 Abstract. 2,000 copies printed.

Optical Polarization Method (cont.)

807/1042

- 18. Zuyev, B. M. Development of the Method of Stress Analysis for
Translucent Media in Diffused Light 9
- 19. Zuyev, B. M. Experimental Analysis of the Behavior of Polarized
Light During Passage Through a Three-Dimensional Stressed Media 102
- 20. Zuyev, B. M. on the Solution of the Three-Dimensional Problem in the
Anisotropic Elasticity by the Optical Method 107
- 21. Zuyev, B. M. Investigation of Residual Stresses in Elastic Structures
with Methods of Variable Modulus (Abstract Two-Dimensional Problem) 114
- 22. Zuyev, B. M. Solution of Three-Dimensional Problems by the Optical
Method with Use of Composite Media 120
- 23. Zuyev, B. M. Residual Stresses Due to the Bending of a Structure
with Load 124
- 24. Zuyev, B. M. (German Summary: Available). Use of Birefringence by
in the Optical Polarization Method 128

cont V/12

ZUYEV, B.M.

Thermosetting plastics for models to be investigated by optical polarization methods. Report No.1: Boundary effect of thermosetting plastics. Choice of reagents constituting the resin. Izv.Kazan.fil.AN SSSR.Ser.khim.nauk no.4:141-151 '57.
(MIRA 12:5)

(Plastics--Optical properties)

ZUYEV, B.M.; SURKIN, R.G., kand. tekhn. nauk, otv. red.;
SHARAFUTDINOVA, M.Z., tekhn. red.

[Some problems arising in the study of stresses by the optical method using three-dimensional models]. Nekotorye voprosy issledovaniia napriazhenii na ob"emnykh modeliakh opticheskim metodom. Kazan, 1959. 22 p. (Akademiia nauk SSSR. Kazanski filial. Seriia fiziko-matematicheskikh i tekhnicheskikh nauk. Trudy, no.2).

(MIRA 16:4)

(Strains and stresses)

(Photoelasticity)

ACC NR: AT7002096

SOURCE CODE: UR/0000/66/000/000/0103/0109

AUTHOR: Zuyev, B. M.

ORG: none

TITLE: Optical anisotropy of stressed block polymers and dependance of photoelastic constant on their molecular structure

SOURCE: Vsesoyuznaya konferentsiya po polarizatsionno-opticheskomu metodu issledovaniya napryazheniy. 5th, Leningrad, 1964. Polarizatsionno-opticheskiy metod issledovaniya napryazheniy (Polarizing-optical method of investigating stresses); trudy konferentsii. Leningrad, Izd-vo Leningr. univ., 1966, 103-109

TOPIC TAGS: polymer physical chemistry, photoelasticity, molecular structure, chain polymer

ABSTRACT: It was established that polymer birefringence during large elastic deformations depends on the anisotropy of polymerization of molecular chain segments. The author demonstrates by using an atomic-molecular model how polymerization anisotropy is caused in polymers subject to stress. On the basis of this it is shown how photoelastic constant of polymers may be increased by introducing into a polymer molecule aromatic naphtalyne or anthracene chains. However, in heavy molecular materials with molecular packing densities of 0.6--0.65 there is an undesirable effect of diffusion of vapor into these molecules. To combat this effect in photo-

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ACC NR: AT7002096

elastic materials it is recommended monomers capable of great degree of polymerization are used. Orig. art. has: 5 formulas.

SUB CODE: 07/ SUBM DATE: 14Jun66/ ORIG REF: 008/ OTH REF: 003

Card 2/2

LAYUS, Lyudvig Avgustovich; ZUYEV, Boris Mikhaylovich; STEPANOV,
Semen Grigor'yevich; LYUSTIHERG, V.F., inzh., ved. red.;
FOMICHEV, P.M., tekhn. red.

[Impact-tension tester of hard polymers. Polarization unit
for optical investigation of stresses] Koper dlia ispytaniia
tverdykh polimerov na udarnoe rastiashchii. Poliarizatsionnaia
ustanovka dlia issledovaniia napriazhenii opticheskim metodom.
Moskva, Filial Vses.in-ta nauchn. i tekhn.informatsii, 1958.
15 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt.
Tema 32. No.P-58-13/5) (MIRA 16:3)

(Polymers--Testing) (Optical instruments)
(Polarization (Light))

L 43079-66 EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJR(c) JD/HW
 ACC NR: AR6014375 (A,N) SOURCE CODE: UR/0137/65/000/011/D005/D006

AUTHORS: Pavlov, A. M.; Zuyev, B. M.; Chukin, V. V.; Trifonova, R. G.; Kashkina, L. N.

TITLE: Formation of elastic-plastic properties of steel cables ¹⁶ ¹⁷ ⁴⁸
^B

SOURCE: Ref. zh. Metallurgiya, Abs. 11D39

REF SOURCE: Sb. Stal'n. kanaty. Vyp. 2. Kiyev, Tekhnika, 1965, 355-359

TOPIC TAGS: wire, wire product, rupture strength, flow stress

ABSTRACT: Increasing the degree of deformation of surface layers during straightening leads to a decrease of the elastic and flow limits, however, the overall effect achieved by this method is negligible. The increase in the degree of deformation during straightening has a negative effect on the time dependence of rupture strength. Straightening of cable drastically reduces the magnitude of residual tensions in the surface layers of the cable. This explains the observed lowering of the elastic and flow limits. 3 illustrations. L. Kochenova /Translation of abstract/

SUB CODE: 11,13,20
 Card 1/1 af UDC: 621.771.001

ZUYEV, B.N.; SUVOROVA, O.A.

Rhenium precipitation from solutions by the cementation
method. Trudy Inst.met. i obogoshch. 1:102-114 '59.
(MIRA 12:5)

(Rhenium)

(Cementation (Metallurgy))

5.4600

75386
SOV/149-2-5-12/32

AUTHORS: Ponomarev, V. D., Zuyev, B. N.

TITLE: Electrolysis of Lead and Zinc in Alkaline Solutions

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Tsvetnaya metallurgiya, 1959, Vol 2, Nr 5, pp 84-87 (USSR)

ABSTRACT: Lead and zinc are normally deposited from alkaline solutions in the form of sponge which needs remelting. Moreover, lead is not only deposited on the cathode as Pb^{2+} but also on the anode as PbO_2 . The authors propose a conversion of the plumbate into lead glycerate by heating the electrolyte with glycerine. The advantage of glycerates consists in the fact that a solid lead deposit is formed on the cathode. The optimal current density is 200 to 300 a/m². Some formaldehyde resin must be added to the electrolyte. The distance between electrodes is kept at 5 cm, the temperature at 60°. No lead is deposited on the anode. The purity of electrolytic lead so obtained is 99.88%. Electric current consumption amounts to 1,600 kwhr per ton. After the electrolytic separation

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Electrolysis of Lead and Zinc in Alkaline Solutions

75386

SOV/149-2-5-12/32

of lead, arsenic is eliminated by converting it into sodium arsenate. The remaining lead is plated chemically on zinc. Indium and thallium are entrained by the precipitation of lead. The remaining electrolyte contains zinc which can be deposited electrolytically at 60° , $d_c = 200 \text{ a/m}^2$. The optimal composition of the electrolyte is (in grams per liter): 100 NaOH, 40-50 Zn, 5 to 10 formaldehyde resin, and 5 to 15 glycerine. Constant stirring (1,000 to 1,200 rpm) is necessary. The yield is 85%, the purity of zinc 99.98%, and the deposited metal is dense. Higher current density produces spongy deposits. There are 3 tables; and 4 Soviet references.

ASSOCIATION:

Kazakh Mining Metallurgical Institute. Chair of Metallurgy of Light and Rare Metals (Kazakhskiy gornometallurgicheskii institut. Kafedra metallurgii legkikh i redkikh metallov)

SUBMITTED:

September 14, 1958

Card 2/2

PONOMAREV, V.D.; ZUYEV, B.N.

Electrolysis of alkali solutions of lead and zinc. Izv.vys.
ucheb.zav.; tsvet.met. 2 no.5:84-87 '59. (MIRA 13:1)

1. Kazakhakiy gornometallurgicheskii institut, kafedra
metallurgii legkikh i redkikh metallov.
(Nonferrous metals--Electrometallurgy)

ZUYEV, B.N.

18(543) PHASE I BOOK EXPLOITATION 30V/2094

Abadalya nauk Kazakhskoy SSR. Institut metallurgii i obogacheniya

Sredy, S. I. (Transactions of the Institute of Metallurgy and Ore Dressing, Kazakh SSR Academy of Sciences, Vol. 1) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1959. 159 p. 1,225 copies printed.

Ed. I. Yu. M. Kuznetsov, Tech. Ed.: Z.P. Borokina; Editorial Board: V.D. Ponomarev (Resp. Ed.), B.N. Lebedev, A.M. Orizimovich, K.P. M., A.A. Iskhov, I.N. Polvyannyy (Resp. Secretary), and Ye. I. Ponomareva.

PURPOSE: This book is intended for metallurgists and metallurgical engineers.

CONTENTS: This is a collection of articles dealing with various aspects of process metallurgy, principally nonferrous, and with related matters such as treatment of ore concentrates, properties of slags, etc. Topics discussed include precipitation of copper from slags, extraction of arsenic from slags; recovery of rare metals from smelting dust, electrorefining, precipitation of lead and zinc, and drying of lead-zinc concentrates. Three articles are concerned with the metal rhodium. The articles are accompanied by Soviet and non-Soviet references.

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Ponomarevs, Ye. I., P.P. Tsyb, Ye. I., Shcherbins, A.G. Belyuk, and Yu. M. Mikhulin. Extraction of Nonferrous and Rare Metals from Furnace Dust at the Chikmant Lead Plant	76
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Mishchenov, I.G. Electrolytic Precipitation of Lead and Zinc from Alkaline Solutions	95
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Card 3/5

h.

ZUYEV, B.N.; NESTEROV, V.N.

Determining the pressure of vapor and the pressure of zinc sulfide
dissociation. Izv. AN Kazakh. SSR. Ser. gor. dela, met. stroi. i stroimat.
no. 9:105-111 '56. (MLRA 10:2)

(Zinc sulfide) (Zinc--Metallurgy) (Dissociation)

Zuyev, B. P.
ZUYEV, B.P., insh.

Stepping up the output of the blooming mill at the Kuznetsk Metallurgical Combine and utilization of progressive work methods.
Trudy UkrNTOChM 1:13-26 '56. (MIRA 10:12)

1. Kuznetskiy metallurgicheskiy kombinat.
(Stalinsk--Rolling mills)

ZUYEV, B.P.; GILYAZEDINOV, L.P.; YEVREINOVA, M.O.

Chemical content of crude petroleum for carbon black production.
Kauch. i rez. 17 no.8:12-14 Ag '58. (MIRA 11:10)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Petroleum--Analysis) (Carbon black)

Zuyev, B.P.

137-1957-12-23640

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 113 (USSR)

AUTHOR: Zuyev, B. P.

TITLE: Intensification of the Operation of the Blooming Mill at the Kuznetskiy Metallurgical Combine, and Utilization of Advanced Operational Procedures (Intensifikatsiya raboty blyuminga Kuznetskogo metallurgicheskogo kombinata i ispol'zovaniye peredovykh metodov truda)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii. Ukr. resp. pravl., 1956, Vol 1, pp 13-36

ABSTRACT: It is reported that, as the result of many years of work in perfecting the equipment and technology of the rolling (R), the staff of the blooming mill at the Kuznetskiy Metallurgical Combine, has succeeded in achieving a high productivity (P) and has exceeded the design capacity by 120 percent. The output of the heating pits was considerably increased by increasing the heating rate and raising the temperature of the ingots before commencing the operations. The electrical system of the mill was considerably improved. Because breakdowns of the ingot-carrier slowed down the operation of the mill a spare ingot-carrier was

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137-1957-12-23640

Intensification of the Operation of the Blooming Mill (cont.)

constructed and the old one was re-designed. Component assemblies of the operating conveyor were also re-designed in areas where breakages occurred frequently. A special machine for the changing of rollers was constructed, which produced a two-hour decrease in the time required for that operation. The diameter of the rollers of the B 1100 was increased to 1200 mm and that of the B 900 was increased to 950 mm, which also resulted in a greater output. The bronze bushings were replaced by water-cooled textolite ones. In 1953 the rolling process was automated in the B 1100. The mobilization of all internal resources will allow to bring the production of the blooming mill to 3.5 mil. tons per year.

S. G.

1. Blooming mills-Modernization

Card 2/2

AUTHOR
TITLE
PERIODICAL
ABSTRACT

ZUYEV B.P., Deputy Chief of the cogging mill. PA - 3058
The Conducting Track. (Vedushchiy stan.- Russian)
Metallurg 1957, Vol 2, Nr 4, pp 19-22 (USSR)
Received: 5/1957

Reviewed: 7/1957

When the Kuznetsk cogging mill started operating in November 1932, the construction of a complete metallurgical cycle had been completed for the first time. The planned output was reached by 1937 and more than doubled by 1956. Much work is done towards an increase in the charge temperature, upon which there depend the performance of the heat beds, fuel consumption and the quality of heating. A rigid time schedule was fixed for the movement of the rolled stock: norms were introduced for different kinds of steel from the moment of the final casting of blocks to their arrival in the heat beds (boiling steel 55 minutes; calm quality steel 2 hours, rail steel 2 hours 25 minutes). The cogging mill has twelve groups of regenerating heat beds, each consisting of four cells, out of which each cell for six blocks. They are heated with blast-furnace gas and by-product coke-oven gas. In the Kuznetsk Combine the addition of 7,8 % by-product coke-oven gas increased the calorific power of the mixture up to 1190-1200 WE/m³,

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through which it was possible to reduce the heating duration of the cold charges by 6.4 to 10.6 %. For the first time in the Soviet Union, the liquid slag discharge with an uninterrupted slag tapping was introduced. The performance of each heat group was doubled as compared to the dry slag discharge. Eighteen workers could be released and 2.5 - 3 % fuel were saved. During 1948 - 50, the heat economics were automatized in all groups, but it has not yet been possible to fully automatize the entire process. Obstacles to this are structural defects of the regenerating beds and the difficulty to fix the actual temperature of the blocks. Therefore a welder is in charge of the final heating of the metal as well as of the transition from the period of the intense heating to the "enduring". The heat beds still form a bottleneck, and therefore the process is characterized by the sharp increase in temperature and by a short total duration of the heating. For normal steels a quick-heating method is used (by 13 - 15 % shorter, thus 1.2 - 2 hours). The cogging process in the Combine is entirely one of its own kind and basically different from that of other plants. There exist two two-high reversing rolling trains in one line, in a distance of 100 m: a large "1200", and a small

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"950" mm. On the large rolling train, blocks of 320 x 300 and sheet bars of 140 x 650 to 200 x 700 mm are rolled for rail, girder, profile, and heavy-plate mills, on the "950" - blocks and sheet bars of smaller cross sections for the light plate-rolling mill and the intermediate strand of rolls. Rolling takes place without intermediate heating. Because the rail, girder and profile mills have a cogging-roll train of their own, it is not necessary to roll out the semifinished material on the "1200" until smaller cross sections are obtained. Most of the blocks are rolled in eleven tappings with three swings. In the first four tapping, the cogging-down amounts to 60-70 mm, in the remaining seven tappings to 100-140 mm. The application of greater cogging-down makes the catching of the rolled stock by the passes more difficult. The coefficient of friction between roll and metal is increased by folding the rolls and by reducing the rolling velocity in the moment of the tapping. The existence behind the cogging-roll train of several semifinishing mill trains forces to roll two to three melts simultaneously. The rolling program changes after each second

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block which has detrimental effects on the overall speed of the cogging mill and complicates the regulation of the operation of the mechanisms involved. While the plant was working, the main mechanical units have been subjected to far-reaching alterations. In 1948, a tension regulator of generators was developed and put into operation, resulting in an increase of 40 % in the performance of the cogging-mill train. Structural changes were also effected in the bloom buggies (hitherto completely unsatisfactory), and the gliding bloom yards were substituted by rolling ones. A net of rails permits it to exchange the bloom buggies every ten minutes. Additional measures resulted in an increase of the speed of the buggies to 7 m per second. The friction wheels of the cogging mill were reconstructed, and the modulus of the gear wheels of the operational rolling process was changed, which here completely eliminated interruptions in operation. No device for roll exchange was planned when the rolling-mill train was constructed. Such a device was built subsequently, and the duration of roll exchange was cut by two hours. In 1948-50, the cogging-roll train changed to rolling rectangular blocks of calm and boiling steels; this meant a saving of two tappings and of twenty

CARD 4/6

The Conducting Track.

PA - 3058

minutes of heating time. As result of observing the work of the most experienced rollers and also on basis of time-keeping the most economical rolling method was selected: the lowest speeds at the tapping and the highest speeds at the discharge. Further increase in performance had been prevented by the obsolete construction of the auxiliary mechanisms. The electrical and mechanical equipment was modernized, changed to the system generator-engine, and electro-mechanical intensifier were applied. On basis of the modernization, the process of rolling of the cogging-roll train was automatized in 1953. The utilization of the automatization stands at, according to the month, 65-70 %. A completely automatic operation is complicated by the too large number of different types of blocks and by the lower performance as compared with manual operation, because some crucial points of automatization still present considerable difficulties. In 1955-56, the receiving roller bed was extended into the building of the heat beds, and a fifth mine crane was installed. This made it possible already as early as 1956 to reduce by 40 % the interruptions of work that had been caused by delays in block supply.

CARD 5/6

The Conducting Track.

PA - 3058

At present, work is continued towards a further increase in the weight of the blocks. This weight now has arrived at 6.9 tons, and a block of 8 tons of calm steel is being introduced.

The plant fully met its obligations for 1956; several thousand blocks were produced above the original plan, the hourly performance per hot hour was increased to 21.5 tons, and 4500 tons of metal were saved. A reduction in the net costs resulted in a saving of over 1.000.000 rubles. In the Fourth Quarter the Combine won the first place and was awarded the honorary title "Best Rolling Mill of the Soviet Union."

(2 charts, 4 reproductions of which 3 are pictures of persons, 6 reproductions with descriptions of the performances of different employees of the Combine).

ASSOCIATION: Kuznetsk Metallurgical Combine, Stalinsk
(Kuznetskiy Metallurgicheskiy Kombinat, Stalinsk)
PRESENTED BY: -
SUBMITTED: -
AVAILABLE: Library of Congress.

CARD 6/6

GLOVATSKIY, A.B.; KHAVKIN, V.I.; DOLMATOV, V.A.; ZUYEV, B.P.; BONDARENKO, V A.

Desulfuration of cast iron with soda briquets outside a
blast furnace. Metallurg 9 no.9:4-5 S '64.

1. Karagandinskiy metallurgicheskiy zavod.

(MIRA 17:10)

20740, D.P.
GOLUBEV, T.M.; SOROKO, L.N.; ZAYKOV, M.A.; KAPTANOV, M.P.;
CHELYSHEV, N.A.; SAKHAROV, G.A.; ZUYEV, B.P.

Power and electric power indexes for blooming mill rolling. Stal' 17
no.2:141-146 F '57. (MLRA 10:3)

1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy
kombinat.
(Rolling mills) (Electric driving--Testing)

ADASINA, V.I.; VASSEL', I.P.; ZUYEV, B.V.; RIOR, E.M.; SERPOKRYL,
S.M., red.

[Get acquainted with Vyborg; a guidebook] Znakom'tes' -
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AUTHOR: Astakhov, Yu. N. (Moscow); Vanikov, V. A. (Moscow); Zyev, E. N. (Moscow)

ORG: none

TITLE: Increasing the throughput capacity of dual-circuit electric power transmission lines

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TOPIC TAGS: electric power transmission, electric wire

ABSTRACT: The results of an investigation of the possibility of increasing the throughput capacity of two-circuit electric power transmission lines are presented. It is shown that a method which consists of rotating one circuit to counterphase allows an increase of the power throughput capacity of up to almost 20% in many cases. This phase rotation method utilizes the mutual inductance effect of one circuit on the other. Making this effect negative by rotating the phase of one of the two circuits in the line leads to a reduction in average phase inductance. A table is presented, showing the increases in power attainable with various types of wire, insulating supports and voltages varying from 35 to 330 kv. The increases in limit power transmittable vary from 6.8 to 17.3%. Orig. art. has: 4 formulas and 1 table.

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