"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, G.S., kand.tekhn.nauk

Effect of the volumetric weight of asbestos cement on its reliability. Stroi.mat. 10 no.12:17-19 D '64.

(MIRA 18:1)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, Grigoriy Semenovich; LITVINOV, Aleksandr Nikolayevich

[Asbestos cement materials and elements and their operational qualities] Asbestotsementnye materialy i konstruktsii i ikh ekspluatatsionnye kachestva. Moskva, Stroiizdat, 1964. 146 p. (MIRA 18:3)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

SLAVINA, T.M.; BLOKH, G.S.; SOKOLOV, P.N.

Use of coarse dispersion cement for making "VO" sheets at the Broceni cement-slate combine. Trudy NIIAsbesttsementa no.19: 31-41 '65. (MIRA 18:9)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, G.S.; IORAMASHVILI, I.N.

Laboratory methods of preparing asbestos cement samples. Trudy NIIAsbesttsementa no.19:70-79 '65. (MIRA 18:9)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

L 45822-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6024330 (A) SOURCE CODE: UR/0021/66/000/004/0483/0487

AUTHOR: Nosnikov, O. F.--Nosnikov, A. F.; Blokh, H. A.--Blokh, G. A. 32 B

ORG: Dnepropetrovsk Chemical Engineering Institute (Dnipropetrovskyy khimiko-tekhnologichnyy instytut)

TITLE: Vulcanization of butadiene-nitrile rubber with hydrogen sulfide in the presence of di-tert-butyl peroxide introduced on zeolites

SOURCE: AN UkrRSR. Dopovidi, no. 4, 1966, 483-487

TOPIC TAGS: vulcanization, synthetic rubber, hydrogen sulfide, zeolite

ABSTRACT: It is shown that rubber products based on butadiene-nitrile rubbers (SKN-26, SKN-40) can be obtained with H_2S and admixtures of di-tert-butyl peroxide DTBP (0.05-0.5 pts. by wt. per 100 pts. of rubber). Synthetic zeolites were used as carriers (NaA for H_2S and NaX for DTBP). Unfilled rubbers, or rubbers filled with inert fillers (chalk, etc.) were found to surpass sulfur-cured rubbers in physicomechanical properties, resistance to theraml aging, and stability toward aromatic hydrocarbons (xylene). The paper was presented by Academician AN UkrSSR Ovcharenko, F. D. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 30Mar65/ ORIG REF: 007/ OTH REF: 007

Card 1/1 JS

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1ST AND 2ND ORDER

PROCESSES AND PROPERTIES INDEX

BLOKH I.A.

a

K

63K. Automatic Welding With a Shielded Arc at High Current Densities. (In Russian.) V. P. Demyantsevich and I. A. Blokh. *Avtogennoe Delo* (Welding), Sept. 1949, p. 3-6.

When rate of electrode travel corresponds to rate of fusion, current density may be greatly increased. Such current densities require an electrode of small diameter (2-3 mm.). Depth of fusion during welding increases 1.5-2.5 times; because of the increased thickness of metal which may be welded, great economies of electric power consumption are achieved. (KI)

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I. G.

Blokh, I. G. - "Ways to mechanize the extraction of fine peat," In symposium: Torf v nar. khoz-ve Belorus. SSR, Minsk. 1948, p. 60-67

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

MEL'NIKOVA, M.R.; BLOK, I.B.

Case of acquired toxoplasmosis with distrubance of neuropsychic activity. Vrach. delo no.5:138-139 My '61. (MIRA 14:9)

1. Somaticheskoye otdeleniye Kiyevskoy psikhonevrologicheskoy bol'nitsy imeni akademika I.P.Pavlova (nauchnyy rukovoditel' - prof. I.A.Polishchuk).
(TOXOPLASMOSIS) (NERVOUS SYSTEM DISEASES)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.G.; BIRYUKOV, M.S.; IVANOV, Ye.Ya.

Winning peat in stumpy bogs. Torf.prom. 32 no.3:11-13 '55. (MLRA 8:6)

1. Moskovskiy torfyanoy institut.
(Peat industry)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

34160

S/196/62/000/002/008/023
E194/E155

N.9300

AUTHORS: Blokh, G.A., Karpov, V.L., Malinskiy, Yu.M., Ol'shanskiy, L.P., and Khloplyankina, M.S.

TITLE: The action of ionising radiation on cable rubbers

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.2, 1962, 14, abstract 2B 79. (Vestn. elektroprom-sti, no.8, 1961, 52-58).

TEXT: Cable rubbers and cable constructions were subjected to gamma radiation from Co^{60} in a source with an output of 21 000 g-equiv.rads. The specimens were irradiated to a dosage of 0.3 Mrad/hour. Radiation was found to cause some chemical changes in cable rubber which progesssively impaired its physical, mechanical and electrical properties. Radiation doses up to 50-100 Mrads on specimens in vacuum or immersed in water, causes smaller change in the properties of rubber than does irradiation in air. This indicates that oxygen participates actively in the processes that occur in rubber subjected to ionising radiation. On the simultaneous application of temperatures up to 70 °C and

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

34160

The action of ionising radiation ... S/196/62/000/002/008/023
E194/E155

radiation for a period of 70 hours, rubber grade TC-35 (TS-35) was more stable than grade ШН-40 (ShN-40). Dosages above 100 Mrads caused complete breakdown of rubberised cloth. Graphs are given of changes in the physical-mechanical and electrical properties of various cable-insulating rubbers subjected to ionising radiation.
7 illustrations, 6 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I. M.

42108. BLOKH, I. M.,- VASIL'YEV, S. P. - geofiecheskieissledovaniya na ugol'nykh-- mestorozhdeniyakh zapadnykh-rayonov SSSR. Trudy Geol. issled. byuro (m-vo ugolvno prom-stizai r-nov SSSR. Geol-razvedon-upr) vysh 4, 1948, s. 44-50.

SO: Letopis' Zhurnal'nykh Statey, Vol 47, 1948

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

1. BLOKH, I. M.

2. USSR (600)

"Two-Way Electric Profiling" Razvedka Nedr, No. 3, 1948 (33-40).

9. Meteorologiya i Gidrologiya, No. 3, 1949.
[redacted] Report U-2551. 30 Oct 52.

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I. M.

REZNIK, A.M. (brigadir), AREST, V.I., BLOKH, I.M., KIKGOF, Yu.A., ZAGARMISTR, A.M., KUPALOV-YAROPOLK, I.K., PETROV, L.V., TYABIN, V.Ye., FEDORENKO, A.N., sostaviteli; DYUKOV, A.I., KLESHCHEV, A.I., redaktory.

[All-Union unified norms for geophysical field work] Vsesoiuznye edinye normy vyrabotki na polevye geofrafizheskie raboty. [Sostaviteli: Reznik A.M. i dr. Redaktory: A.I.Diukov, A.I.Kleshchev] Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1951. 146 p. (MLRA 7:4)
(Geophysics)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

ABRAMOV, S.K., kand.tekhn.nauk; AVERSHIN, S.G., prof., doktor tekhn.nauk; AMMOSOV, I.I., doktor geol.-min.nauk; ANDRIYEVSKIY, V.D., inzh.; ANTROPOV, A.N., inzh.; AFANAS'YEV, B.L., inzh.; BERGMAN, Ya.V., inzh.; BLOKHA, Ye.Ye., inzh.; BOGACHEVA, Ye.N., inzh.; BUKRINSKIY, V.A., kand.tekhn.nauk; VASIL'YEV, P.V., doktor geol.-min.nauk; VINOGRADOV, B.G., inzh.; GOLUBEV, S.A., inzh.; GORDIYENKO, P.D., inzh.; GUSEV, N.A., kand.tekhn.nauk; DOROKHIN, I.V., kand.geol.-min.nauk; KALMYKOV, G.S., inzh.; KASATOCHKIN, V.I., doktor khim.nauk; KOROLEV, I.V., inzh.; KOSTLIVTSEV, A.A., inzh.; KRATKOVSKIY, L.F., inzh.; KRASHENINNIKOV, G.F., prof. doktor geol.-min.nauk; KRIKUNOV, L.A., inzh.; LEVIT, D.Ye., inzh.; LISITSA, I.G., kand.tekhn.nauk; LUSHNIKOV, V.A., inzh.; MATVEYEV, A.K., dots., kand.geol.-min.nauk; MEPURISHVILI, G.Ye., inzh.; MIRONOV, K.V., inzh.; MOLCHANOV, I.I., inzh.; NAUMOVA, S.N., starshiy nauchnyy sotrudnik; NEKIPELOV, V.Ye., inzh., PAVLOV, F.F., doktor tekhn.nauk; PANYUKOV, P.N., doktor geol.-min.nauk; POPOV, V.S., inzh.; PYATLIN, M.P., kand.tekhn. nauk; RASHKOVSKIY, Ya.E., inzh.; ROMANOV, V.A., prof., doktor tekhn. nauk; RYZHOV, P.A., prof., doktor tekhn.nauk; SELYATITSKIY, G.A., inzh.; SPERANSKIY, M.A., inzh.; TERENT'YEV, Ye.V., inzh.; TITOV, N.G., doktor khim.nauk; GOKAREV, I.F., inzh.; TROYANSKIY, S.V., prof.; doktor geol.-min.nauk; FEDOROV, B.D., dots., kand.tekhn.nauk; FEDOROV, V.S., inzh. [deceased]; KHOMENTOVSKIY, A.S., prof., doktor geol.-min.nauk; TROYANOVSKIY, S.V., otvetstvennyy red.; TERPIGOREV, A.M., red.; KRIKUNOV, L.A., red.; KUZNETSOV, I.A., red.; MIRONOV, K.V., red.; AVERSHIN, S.G., red.; BURTSEV, M.P., red.; VASIL'YEV, P.V., red.; MOLCHANOV, I.I., red.; RYZHOV, P.A., red.; BALANDIN, V.V., inzh., red.; BLOKH, I.M., kand. tekhn.nauk, red.; BUKRINSKIY, V.A., kand.tekhn.nauk; red.; VOLKOV, K.Yu., inzh., red.; VOROB'YEV, A.A., inzh., red.; ZVONAREV, K.A., prof. doktor tekhn.nauk, red.

(Continued on next card)

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ABRAMOV, S.K.--- (continued) Card 2.

ZDANOVICH, V.G., prof., doktor tekhn.nauk, red.; IVANOV, G.A., doktor geol.-min.nauk, red.; KARAVAYEV, N.M., red.; KOROTKOV, G.V., kand.geol.-min.nauk, red.; KOROTKOV, M.V., kand.tekhn.nauk, red.; MAKKAVEYEV, A.A., doktor geol.-min.nauk, red.; OMEL'CHENKO, A.N., kand.tekhn.nauk, red.; SENDERZON, E.M., kand.geol.-min.nauk, red.; USHAKOV, I.N., dots., kand. tekhn.nauk, red.; YABLOKOV, V.S., kand.geol.-min.nauk, red.; KOROLEVA, T.I., red.izd-va; KAGHALKINA, Z.I., red.izd-va; PROZOROVSKAYA, F.L., tekhn.red.; NADEINSKAYA, A.A., tekhn.red.

[Mining; an encyclopedia handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav. red. A.M.Terpigorev. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po ugol'noi promyshl. Vol.2. [Geology of coal deposits and surveying] Geologiia ugol'nykh mestorozhdenii i marksheiderskoe delo. Redkolegiia toma S.V.Troianskiy, 1957. 646 p. (MIRA 11:5)

1. Chlen-korrespondent AN SSSR (for Karavayev)
(Coal geology--Dictionaries)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, Isay Moiseyevich; ZABOROVSKIY, A.I., redaktor; KOLOSKOVA, M.I., redaktor izdatel'stva; GUROVA, O.A., tekhnicheskiy redaktor

[Dipole electroprofiling; manual for geological surveying, exploration and prospecting] Dipol'noe elektroprofilirovanie; rukovodstvo pri geologicheskom kartirovanii, poiskakh i razvedke poleznykh iskopaemykh. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1957. 190 p. ---- [Album of diagrams; supplement to the book "Dipole profiling." Al'bom paletok; prilozhenie k knige "Dipol'noe elektroprofilirovanie," 1957.32 plates. (MLRA 10:10)

(Prospecting--Geophysical methods)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.M.; ZAGARMISTR, A.M.; FARADZHEV, A.S.

Guard electrode method and its use in mapping coal seams.
Razved. i okh.nedr 24 no.10:34-39 O '58. (MIRA 12:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut (for Blokh) 2. Vsesoyuznyy nauchno-issledovatel'skiy institut geofiziki (for Zagarmistr, Faradzhev).
(Prospecting--Geophysical methods) (Coal geology--Maps)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

SOV/49-59-6-9/21

AUTHORS: Blokh, I. M. and Shemyakin, Ye. A.

TITLE: The Dipole and 3-Electrode Diagrams of Electro-Profiles Obtained by the Method of an Asymmetric, Straight Line BAMN.

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 6, pp 872-879 (USSR)

ABSTRACT: The profile BAMN (Fig 1a) can be arranged as a combination of two 3-electrode installations BMN ($A \to \infty$) and AMN ($B \to \infty$). The relation between the apparent resistances $\rho_{k(B)}$ and $\rho_{k(A)}$ to $\rho_{k(BA)}$ can be determined from Eqs (1) to (3), from which the basic formula (4) can be derived. The relationship of ℓ_2/ℓ_1 to the apparent resistance can be determined from Eqs (5) to (7). The solution of the latter is found as Eqs (7a), (7b). This is illustrated in Fig 2. Fig 3 shows the comparison between the results obtained by a dipole method with that of the 3-electrode method. Fig 4 shows a similar comparison of results obtained for the Novo-Sergeyevskiy coalfield in the Kuznetsk Basin (1 - area

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SOV/49-59-6-9/21

The Dipole and 3-Electrode Diagrams of Electro-Profiles Obtained by the Method of an Asymmetric, Straight Line BAMN.

where the difference between the two methods is negligible). For the geo-electric profile where the apparent resistance increases with an increase of distance, the precision of the diagrams of the 3-electrode method improves when the relation l_2/l_1 is small. Therefore, the method can be applied in comparatively small areas. There are 4 figures and 4 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut (All-Union Scientific Research Coal Institute)

SUBMITTED: March 7, 1958.

Card 2/2

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.M.; SHEMYAKIN, Ye.A.

Shielded three-electrode device and experience in using it in electric profiling. Razved. i okh. nedr 27 no.6:23-28 Je '61. (MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.
(Electric prospecting)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, Isay Moiseyevich; TARAKHOV, A.G., red.; BORUSHKO, T.I., red. izd-va; BYKOVA, V.V., tekhn. red.

[Resistivity method of electric profiling]Elektroprofilirovanie metodom soprotivlenii. Moskva, Gosgeoltekhizdat, 1962. 238 p. ___[Theoretical electric profile curves]Teoreticheskie krivye elektroprofilirovaniia. 21 diagrs. (MIRA 15:10)
(Electric prospecting)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.M.

Increasing the efficiency of electric profiling in geological mapping. Raved.i okh.nedr 28 no.3:30-35 Mr '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.
(Electric prospecting) (Geology—Maps)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

YAKUBOVSKIY, Yuriy Vladimirovich; LYAKHOV, Lev L'vovich; BLOKH, I.M., kand. tekhn. nauk, retsenzent; BOGACHEVA, N.G., ved. red.

[Electric prospecting] Elektrorazvedka. Izd.2., perer. i dop. Moskva, Nedra, 1964. 417 p. (MIRA 17:11)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BRONGULEYEV, V.V.; BLOKH, I.M.

Problems of the combined use of geophysical and geological methods for geological surveying on a 1:25,000 and 1:50,000 scale. Sov. geol. 7 no.3:66-75 Mr '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.M.

Method for studying electric fields over complexly linked geoelectric sections. Izv. AN SSSR. Ser. geofiz. no.6:883-893 Je '64. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.M.; VOROB'YEV, A.S.; KROLENKO, N.G.

Electric field of a pattern mapping unit above the contact of two media. Prikl. geofiz. no.40:101-119 '64 (MIRA 18:1)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

Blokh, I. M.

24(7) PHASE I BOOK EXPLOITATION SOV/1700

Lvov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) /Lvov/ Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its: Fizicheskiy sbornik, vyp.4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Neporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Technical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Miliyanchuk (Deceased), Doctor of Physical and Mathematical Sciences; A.Ye. Glauberman, Doctor of Physical and Mathematical Sciences; Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

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APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

Blokh, I.M.

32-11-21/60

AUTHORS: Polyakov, P.M., Rusanov, A.K., Blokh, I.M.

TITLE: Spectral Analysis of Beryllium (Spektral'nyy analiz berilliya)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp.1320-1323 (USSR)

ABSTRACT: A direct determination of the concentration of the admixture, which is small after the sample changed from the metal- into the oxide form, was carried out without any sort of preparation. This method was comparatively well developed (in the USSR) between 1948 and 1951, and is widely in use as a means of control in laboratories and industrial plants. In the first stage of beryllium production the half-volume evaluation of several elements is employed. In finishing production it is sufficient to determine the elements B, Ni, Cu, Pb, Sn, W, Mo, Zn, Ba, Na, K, Li, Al, Fe, Si, Mg, Mn, Cr and Ca; for the determination of the others the method developed by Smith and Fassel (1) is used. In the chapter dealing with preparation of samples for analysis and preparation of standard mixtures these processes are described. In the former case a beryllium dose is burnt in a small quartz can in a "Mars" furnace under the influence of the mixture of oxygen and steam (within 2 hours at 900°), after which it is chemically oxidised. In the case of a content of boron the latter is determined according

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to a special method (2). The standard mixtures are obtained by mixing the base with the oxides of the corresponding elements in a certain proportion. Each of the following standards is diluted 3-fold by the addition of the basis substance, the last series being prepared by dilution with water and by the solutions of the nitrogenous acid salts of the alkali elements. In the chapter: Half-volume evaluation of admixtures in beryllium it is said that in this case the spectrum is photographed twice: First with respect to easily volatile elements, and then with respect to such as occur in the arc in the middle and at the end of the experiment. A table is given. The chapter: Determination of admixtures by volume describes this process. Boron, chromium, and tin is determined by separate vaporation from one sample. The process is based upon the difference in the vapor pressure of various elements and the basic substance. In individual cases so-called carriers of these effects were used, i.e. admixtures by which this effect is accentuated. In this case special graphite electrodes are used, which are shown in form of a drawing. In the chapter: The determination of alkali elements and elements of alkaline earths it is pointed out that when determining lithium and potassium beryllium oxide with admixtures of various portions of sodium carbonate are

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used. The analysis is carried out after absolute blackening of the spectral lines. For the determination of sodium, barium, and calcium two films are used in parallel: "Panchrom" and "Isoopto", the spectrum of sodium being recorded by the first, and that of barium by the second. There are 4 figures, 3 tables, and 4 references, 2 of which are Slavic.

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BLOKH, I.M.

Spectrographic determination of rare elements in ores and concentrates and the determination of impurities in rare elements. Fiz.sbor. no.4:343-346 '58. (MIRA 12:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut redkikh i malykh metallov. Giredmet.
(Metals, Rare and minor--Spectra)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.M.; RUSANOV, A.K.

Spectrographic determination of boron in zirconium. Trudy Kom. anal. khim. 12:160-165 '60. (MIRA 13:8)
(Zirconium--Analysis) (Boron--Analysis)
(Spectrum analysis)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, I.M.; RIVKINA, M.A.

Spectral analysis of powdered samples of various composition. Zav. lab. 30 no.5:556-557 '64. (MIRA 17:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti.

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

KRYZHANOVSKAYA, I., kand.tekhn.nauk; BLOKH, K., inzh.

Local cements made of slags and soda industry wastes. Stroi. mat. 4 no.8:25-26 Ag '58. (MIRA 11:9)
(Cement)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

STRELKOV, M. [Strilkov, M.], kand.tekhn.nauk; KRYZHANOVSKAYA, I. [KRYZHANIVS'KA, I.], kand.tekhn.nauk; SYRKIN, Ya., kand.tekhn. nauk; BLOKH, K., inzh.; DOLZHKOVA, G. [Dolzhkova, H.], inzh.

Colored slag cements. Bud.mat.i konstr. 2 no.1:31-32 F '60. (MIRA 13:6)

(Slag cement)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

S/058/63/000/003/021/104
A062/A101

AUTHOR: Blokh, K.

TITLE: Structure of nuclear matter

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 5, abstract 3V44 (In collection: "Stroyeniye yadra". Moscow, Gosatomizdat, 1962, 54 - 62)

TEXT: A survey of the results obtained by different authors in the theory of nuclear matter. It is noted that Brückner's theory corresponds in fact to the approximation of small density. The question of the convergence of Brückner's method is examined. A comparison is made of the results of computations with conjugate potentials, having a hard core and a velocity dependent term. It is noted that in Brückner's t-matrix singularities arise in the case wherein the conjugate potential is attracting. These singularities are due to the instability of the Fermi surface with respect to the formation of Cooper pairs. The futility of the attempts to calculate the magnitude of the energetic gap in the spectrum of elementary excitations of nuclear matter is noted. The solutions obtained

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Structure of nuclear matter

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by Overhouser (RZhFiz, 1961, IB326) for the density of the Fermi system are discussed. This solution appears as an oscillating function of the place. It is assumed that the density fluctuations of nuclear matter of a given type are connected with the collective excitations which, for instance, give rise to a gigantic dipole resonance in photonuclear reactions. See also RZhFiz, 1961, 7B239.

D. Zaretskiy

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

SYRKIN, Ya.M.; KRYZHANOVSKAYA, I.A.; KANOVICH, Ye.G.; DOLZHKOVA, G.V.; BLOKH, K.B.; KIRYAYEVA, E.Ye.

Raw material base and flow diagram for the manufacture of white cement at the Zdolbunov Cement Plant. Trudy IUzhgiprotsementa no.6:3-11 '64. (MIRA 17:12)

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BLOKH, K. I.

C

Investigation of the torch of a tank furnace by means of a hydraulic model. K. I. BLOKH. *Steklo i Keram.*, 6 [8] 6-9 (1949). Characteristics of a transverse flame torch of a gas-fired tank furnace with R (radius of curvature of flame space) = 5540 mm, $R_e = 2.5 \times 10^4$, and $R_e$crit. = 7.9×10^4 were studied by means of a 1:20 Plexiglas model equipped with three burners, only the middle burner was used. Air flow was studied by using water colored with hyposulfite, and gas flow was studied with clean water. The consumption of liquid in the model corresponded to $R_e$model > $R_e$crit.; the ratio of "air" to "gas" was 1.4, corresponding to an excess air coefficient of 1.2. Qualitatively, movement of gases was observed by means of colored streams, while the shape, dimensions, and position of the torch (flame space in which there was a propagating movement) were determined from speed measurements. The torch was found to occupy about 35% of the service space of the furnace and to cover about 50% of the glass melt surface, calculated on the basis of one burner. For the section under investigation (z/d_s = 0 to 5.31), S_t/S_o = 1.4 + 0.55z/d_s and $(Q_t - Q_o)/Q_o$ = 0.048z/d_s where S_t = cross sectional area of torch, S_o = area of inlet, Q_t = gas consumption through the cross sectional area of the torch at a distance of z/d_s from the inlet, and Q_o = gas consumption of the burner. On its way from the inlet to the outlet, the torch picks up gases from the standstill zones and gives them a circulatory motion. The circular flow created by the torch amounts to about 30% of the total gas consumption of the burner. The contours of the propagating flame space (of the torch) and of the standstill zones are determined by the dimensions and geometrical configuration of the burner and of the flame space of the furnace and are not changed by increasing the consumption of gas and air. Combustion of gas in the mixing chamber was 67% of the total, the remaining 33% was burned within the limits of the service space of the furnace. Curves, diagrams, and a photo of the model are included. B. Z. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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15(2)

AUTHORS: Chernyak, M. G., Blokh, K. I., Naydus, G. G.

SOV/72-58-12-4/23

TITLE: Calculation Method of the Diameter of a Continuous Glass Fiber (Metod rascheta diametra nepreryvnogo steklyannogo volokna)

PERIODICAL: Steklo i keramika, 1958, Nr 12, pp 13 - 17 (USSR)

ABSTRACT: The dimension method, first adopted by Professor L.S.Eygenson in connection with the conditions of vitrification, was used for the solution of this problem (Refs 1 and 2). This method is based on results obtained from experimental investigations. Formula (1) generally represents the dependence of the fiber diameter on the parameters determined in the experimental way. By a number of mathematical transformations, the authors obtain formulae (2) and (3). The authors further describe the experiments, contained in formulae (1) and (2), which were carried out in order to obtain the required ex-

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perimental values. By a further transformation of the formulae, the authors obtain formulae (4) and (5), by which the values of the coefficient K_2 as well as the diameter of the fiber can be calculated. Tables 1 to 6 show the values of the drawing velocity (w), the fiber diameters obtained both experimentally (d_{exp}) and by calculation (d_{cal}), using various annular drawing dies and the same glass mass temperature of 1240°. The average deviations of the experimental from the calculated values amount to 6.7% and 3.5%. There are 6 tables and 2 Soviet references.

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S/072/60/000/009/003/007
B021/B058

24.3000 15.2120

AUTHORS: Blokh, K. I., Shevelevich, R. S., Derevyagin, A. N.

TITLE: Optics - A New Field of Application for Glass Fiber

PERIODICAL: Steklo i keramika, 1960, No. 9, pp. 19-21

TEXT: A comprehensive study has been conducted lately at the Institut steklovolokna (Institute for Glass Fiber) for the production of light-conducting glass fibers, utilizing their optical properties. Luminous energy can be transmitted by means of a light-conducting texture with arbitrary position of the fibers. Pictures can be transmitted by such a texture at a suitable position of the fibers in it (Fig. 1). The light pipes must exhibit high transparency and high resolving power. The resolving power of the light pipes is determined by the number of discernible target lines, which fall to 1mm of the image field. The utilization of glass fibers as light conductors is based on the phenomenon of the inner total reflection, as can be seen from Fig. 2. The angle of aperture of the rays penetrating into the fiber is the greater, the bigger the difference of the refractive index of the glass-fiber

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Optics - A New Field of Application for Glass Fiber

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material and the surrounding medium. Investigations by A. L. Korobko-Stefanov showed that the electromagnetic fields of the light wave do not stop at the separation boundary, but propagate within the medium. The investigation results of the transparency of textures from fibers of various diameters, from glasses of various compositions with various fiber casings are tabulated. The coefficients of expansion of the glasses and their casings must be approximately equal, to prevent the forming of cracks. Optical glass fibers of small diameter with high refractive index in a thin optical glass casing with low refractive index must be placed in regular order to obtain light pipes with high resolving power and high transparency. The elimination of the aberration of optical systems is mentioned among the many problems which can be solved by means of fiber light pipes, the paper by G. G. Slyusarev being mentioned. These light pipes can also be used in electronic optics. There are 2 figures, 1 table, and 3 Soviet references.

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B021/B054

AUTHORS: Chernyak, M. G., [redacted], Aliyev, A. I., Kapustkin, D. M.

TITLE: Study of the Flow of Glass in Electric Furnaces for Glass Fiber Production

PERIODICAL: Steklo i keramika, 1960, No. 8, pp. 4 - 7

TEXT: The present paper is a first attempt to study the flow of glass in small electric furnaces for glass fiber production. Besides glass pellets dyed with cobalt oxide to investigate flows in glass crucibles, the authors used radioisotopes as indicators. The experiments were carri out in an industrial plant for glass fiber production. The glass crucib was fed with glass pellets of known chemical composition. The pellets weighed 9 - 10 g each, and part of them were tagged by radioisotopes. moment of feeding with tagged pellets and the instant of appearance o radioactivity in the glass fiber were fixed in the investigation. Bef

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Study of the Flow of Glass in Electric Furnaces for Glass Fiber Production

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B021/B054

the authors studied the distribution of activity by the groups of spinnerets, and its change with time. The glass fibers were wound on a spool. The spool axis formed an angle of 35 - 45° with the front of spinnerets. The activity of samples was measured on aБ-2 (B-2) plant by means of АС-1 (AS-1) and БФЛ (BFL) counters. Uranium oxide and Ca^{45} were used as indicators. Fig. 4 shows experimental results obtained with a pellet activated by UO_2. Further experiments were made with Ca^{45} sinde the great difference between the atomic weights of uranium and the glass elements became clearly noticeable in feeding with several pellets. The experiments, integrated by data of temperature distribution in the glass crucible, permit a probable diagram to be plotted for the flow of glass. Temperature distribution measurements were made under the supervision of L. G. Zhivov, Candidate of Technical Sciences. There are 7 figures and 1 Soviet reference.

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Legend to Fig. 4: a) minutes, b) J imp/min

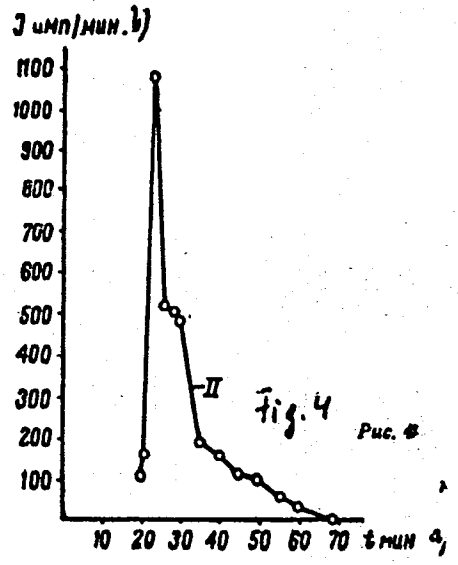

Fig. 4 Рис. 4

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BLOKH, K. I.

"Relaxation theory of vitrification and strength of glass fibres."

report submitted for 4th All-Union Conf on Structure of Glass, Leningrad, 16-21 Mar 64.

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

ZHUKOVSKIY, Nikolay Platonovich; PETROV, Aleksey Semenovich; BLOKH, L.S., inzh.; SEGAL', L.S., inzh.; BERGER, G.S., kand. tekhn.nauk, retsenzent; KRASNOMOVETS, A.V., otv. red.

[Graphic methods of technological calculations in the design of ore-dressing plants] Graficheskie metody tekhnologicheskikh raschetov pri proektirovanii obogatitel'nykh fabrik. Moskva, Izd-vo "Nedra," 1964. 168 p. (MIRA 17:4)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

CHERNYAK, M.G.; ASLANOVA, M.S.; VOL'SKAYA, S.Z.; KUTUKOV, S.S.; SIMAKOV, D.P.; NAYDUS, G.G.; BOVKUNENKO, A.N.; KOVALEV, N.N.; SHKOL'NIKOV, Ya.A.; ZHIVOV, L.G.; KOVALEV, N.P.; KOZHUKHOVA, N.V.; KOROLEVA, A.Ye.; VINOGRADOVA, A.M.; OSIPOVA, O.M.; BADALOVA, E.I.; BRONSHTEYN, Z.I.; L'VOV, B.S.; KRYUCHKOV, N.N.; BLOKH, K.I.; MASHINSKAYA, N.I., red.

[Continuous filament glass fibers; technology fundamentals and their properties] Nepreryvnoe stekliannoe volokno; osnovy tekhnologii i svoistva. Moskva, Khimiia, 1965. 319 p. (MIRA 18:8)

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L 54998-65 EWP(e)/EWT(m)/EPA(s)-2/EPF(c)/EPR/EWP(b)/EWP(i) Pq-4/Pr-4/Ps-4/Pt-7
WW/WH

ACCESSION NR: AP5011942

AUTHOR: Babanin, V. I.; Blokh, K. I.

TITLE: Some factors determining strength of double gl[illegible]

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materia[illegible]

TOPIC TAGS: glass fiber, fiber strength, expan[illegible]

ABSTRACT: The object of the study was to determine [illegible] ties and thermal expansion coefficients of the [illegible] fiber core inside a she[illegible] glass fibers is equal [illegible] of the double glass fibers [illegible] elasticity of the core and to the tensile strength [illegible] strength double glass fibers it is necessary to match [illegible] ficients of the starting glass components. The best [illegible] when the difference in thermal expansion coefficients of the two glasses is slightly on the positive side ($\alpha_{core} - \alpha_{shell} > 0$). Orig. art[illegible]

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L 54998-65

ACCESSION NR: AP5011942

and 11 formulas.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut steklyannogo volokna (All-Union Scientific Research Institute of Glass Fiber)

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L 55000-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPR/EWP(b) Pq-4/Pr-4/Ps-4/
[illegible] Pt-7 WW/WH UR/0363/65 [illegible]

AUTHOR: Blokh, [illegible] I.

TITLE: Molecular-kinetic parameters which determine [illegible] and the reasons for strength variation

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy [illegible] 433

TOPIC TAGS: glass fiber, fiber strength

ABSTRACT: Product strength and quality characteristics [illegible] -boro-silicate glasses with respe[illegible] [illegible]mation. The object of the work [illegible] [illegible] which are responsible for glass [illegible] [illegible] fiber surface. [illegible] [illegible] fiber is greater [illegible] [illegible] [illegible] (where t_c is the temper[illegible] [illegible] viscosity (n) and the Maxwe[illegible]

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ACCESSION NR: AP5011943

such a level that further structural changes in glass are virtually prevented]. The glass fiber strength is increased by increasing the rate of glass cooling during the process of fiber formation. Formation of cracks on the [illegible] gradient of the thermal expans[illegible] dependent on the [illegible] figures.

[illegible] nauchno-issledovatel[illegible]

SUBMITTED: 25Dec64 ENCL: 00

NO REF SOV: 005 OTHER: 001

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L 46270-66 EWT(m)/EWP(e) WW/WH

ACC NR: AP6023923 SOURCE CODE: UR/0363/66/002/007/1280/1284

AUTHOR: Blokh, K. I.

ORG: All-Union Scientific Research Institute of Glass Fibers (Vsesoyuznyy nauchno-issledovatel'skiy institut steklyannogo volokna)

TITLE: Thermal expansion and structure of glass fibers

SOURCE: AN SSSR, Izv. Neorg materialy, v. 2, no. 7, 1966, 1280-1284

TOPIC TAGS: glass fiber, thermal expansion

ABSTRACT: The thermal expansion of glass fibers from TK-16 glass and their expansion upon reheating in the dilatometer were studied. It is shown that the thermal expansion of glass fibers truly reflects the nonequilibrium structure which sets in as the fiber is formed from the glass melt. The thermal expansion coefficient of glass fibers is higher than that of the corresponding original glass, and is higher the more irregular the structure stabilized in the fiber. The strength of glass fiber changes in similar fashion. It is concluded that the dilatometric curves of glass fibers permit one to determine the temperature range within which the glass fiber does not change its properties corresponding to the structure stabilized therein. Author is deeply grateful to R. A. Prokhorova for her thorough measurements of the thermal expansion coefficient of the glass fibers. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 19Apr65/ ORIG REF: 004

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, K. KH.

261

AUTHORS: Kendys', P.N. (Cand. Tech. Sc.) and Blokh, K.H. (Cand. Tech. Sc.) (Central Boiler Turbine Institute).

TITLE: Comparison of calculated and experimental data on heat exchange in the furnaces of steam boilers. (Sopostavleniya raschetnykh i opytnykh dannykh po teploobmenu b topkakh parovykh kotlov).

PERIODICAL: "Teploenergetika" (Thermal Power), Vol.4, No.4, April, 1957, pp. 58-63 (U.S.S.R.)

ABSTRACT: A new standardised method of making thermal calculations on boiler sets has recently been published. This has been compared with experimental data consisting of extensive experimental material on the investigation of radiation heat exchange in industrial furnaces and in experimental installations obtained in the Soviet Union and other countries between 1925 and the present time. The experimental data covers various furnace constructions, types of fuel, methods and conditions of combustion. The experimental data is divided into three classes according to its reliability. The first class of reliability relates to investigations in which the quantity of heat received by radiation receiving surfaces in a furnace is evaluated by both calorimetric measurements and by the thermal balance of the furnace provided that there is sufficient agreement between the

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Comparison of calculated and experimental data on heat exchange in the furnaces of steam boilers.(Cont.)

results obtained by the two methods. The second class of reliability relates to tests in which the measurement of individual components of the heat balance were determined by a simplified procedure. The third class includes the least reliable material obtained either during short tests or based on experiments that were not sufficiently accurate. This classification was necessary in the early stages of development of the procedure of calculation. The main characteristics of the experimental material are summarised in a table which gives on the one hand the types of fuel used and the method of combustion and on the other the number of experiments and various furnace conditions. The formulae that form the basis of heat exchange calculations in furnaces are given and developed. The results are plotted in graphs and compared with experimental data on heat exchange in furnaces. One graph relates to combustion of gaseous and liquid fuels and the other to all data on solid fuels. The graphs show that the fundamental design formulae are in satisfactory agreement with the experimental data. Calculated and experimental values for the gas temperature at the outlet from furnaces are compared in two further graphs. With a few exceptions the divergence between calculated and

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Comparison of calculated and experimental data on heat exchange in the furnaces of steam boilers. (Cont.)

experimental values does not exceed ± 100°C and is in most cases less than 50°C. It should be mentioned that the absolute error in the experimental determination of the mean gas temperature at the outlet from a furnace is also usually not less than ± 50°C. Good agreement is shown between experimental material relating to all three classes of reliability with results obtained from tests of the first and second classes. Reasons for such divergences as exist are explained. Analysis of the deviations between calculated and experimental outlet temperatures show that the standard method of calculating heat exchange agrees well with available experimental figures. The accuracy is poor for some small oil burning furnaces because the calculation is based on mean values of certain variables which are of great importance in small furnaces. The standard method of calculation permits sufficiently accurate evaluation of outlet gas temperature in dependence on the constructional features of furnaces, the types of fuel and combustion conditions. It should be noticed that the experimental data relates mainly to older types of furnaces. Not enough data is available on new types of furnace such as cyclone furnaces, pulverised fuel furnaces with rotating burners and rapid combustion furnaces. 5 figures, 3 literature references (Russian).

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

LEPETOV, V.A.; BLOKH, L.D.

Forcing of rigid dies into rubber. Kauch. i rez. 22 no.12: 24-28 D '63. (MIRA 17:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

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L 06111-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1) SOURCE CODE: UR/0193/66/000/004/0041/0042

ACC NR: AP6018718

39
B

AUTHOR: Rozenshteyn, A. I.; Blokh, L. D.

ORG: none

TITLE: Application of the "Amur" machine in the automation of industrial processes

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 4, 1966, 41-42

TOPIC TAGS: automatic control equipment, automatic regulation, automatic temperature control, automation, industrial automation, temperature control, TEMPERATURE REGULATOR / AMUR TEMPERATURE REGULATOR

ABSTRACT: The "Amur" machine, designed to measure and control temperatures from -200 to ± 650 C in industrial processes, handles up to 80 control points with scheduled runs of 3, 12, 17, or 24 sec per control point. The measurement range is based on bridges connected to resistance thermometers and the measurement error does not exceed ±2% of the measurement range. The dimensions of the machine are 1020 x 800 x 2100 mm and the required power does not exceed 50 v-a. The plant that produced the "Amur" is using it to control the temperature of molds in the manufacture of plastic parts. The machine has found wide application in many industrial processes and particularly in the chemical and food industries. A block diagram of the "Amur" is shown below. Orig. art. has: 1 figure.

UDC 678.057.7—555.62

Card 1/2

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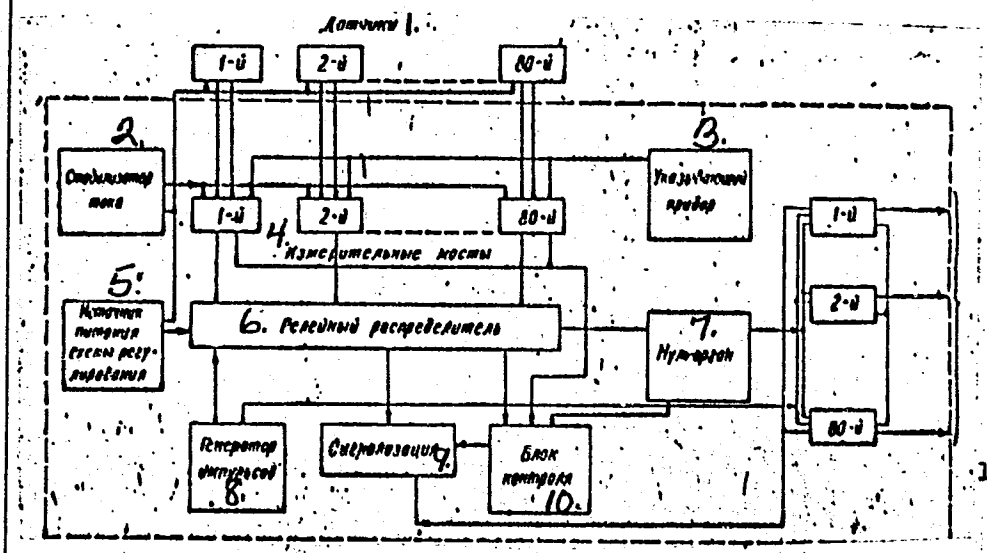

1. Transducers
2. Current regulator
3. Indicator
4. Measuring bridges
5. Feed source of control circuit
6. Relay distributor
7. Zero element
8. Pulse - generator
9. Signal system
10. Control unit

SUB CODE: 13/ SUBM DATE: none

Card 2/2 LC

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

PAVLOV, M.A., akademik; BLOKH, L.S., inzhener, redaktor

[Metallurgy of castiron]Metallurgiia chuguna. Izd. 5-oe, dop. razdelom "Razvitie i usnoenie tepla v domennykh pechakh." Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Pt.2 [Blast-furnace process] Domennyi protsess. 1945. 492 p. (MLRA 8:7)
(Cast iron--Metallurgy) (Smelting)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

DOBRYANSKIY, A.F.; BLOKH, L.S.; BLESTOCHKINA, Ye.P. [deceased]

Relationship between kinematic viscosity and viscosity according to Engler. Trudy VNIIM no.5:22-32 '47. (MIRA 12:1)
(Lubrication and lubricants) (Viscosity)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

1. BLOKH, L. S.

2. USSR (600)

4. Technology

7. Basic graphic methods of processing experimental data. Leningrad Prakticheskoe rukovodstvo, 1951

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLAZHKIN, Arkadiy Timofeyevich; BLOKH, L.S., redaktor; LUCHKO, Yu.F., redaktor; KOVALENKO, N.I., tekhnicheskiy redaktor

[Electric-machine automatic control of drives in metallurgy plants] Elektromashinnoe avtomaticheskoe upravlenie privodami na metallurgicheskikh predpriiatiiakh. Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. 1954. 296 p. (MLRA 8:4)
(Automatic control) (Electric machinery)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, L.S.

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of Solid Mineral Fuels, I-12

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62531

Author: Blokh, L. S.

Institution: None

Title: Nomograph for Reducing Actual Volume of Coke Gas to Standard Volume

Original Periodical: Koks i khimiya, 1956, No 1, 45-46

Abstract: None

Card 1/1

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, L.S.

SUBJECT: USSR/Cement Mixtures 101-4-5/13

AUTHOR: Blokh, L.S., Engineer

TITLE: Graphic Calculation Methods for Raw Cement Mixtures According to a Given Mineralogical Composition of Clinkers (Graficheskiy metod rascheta tsementnykh syr'yevykh smesey po zadannomu mineralogicheskomu sostavu klinkera)

PERIODICAL: Tsement , 1957, #4, pp 21-22 (USSR)

ABSTRACT: V. V. Tovarov published in "Tsement", issue # 1, 1956, an article in which he described a graphic method prepared by L.S. Blokh to establish the composition of three-component kiln charges. The method consists in preparing 3 two-component mixtures, the second component being a constituent of all the mixtures. All 3 mixtures must contain a given amount of the same oxide. There are no indications that the composition of 3 mixtures, complying with the aforementioned conditions, is always possible, and if feasible, most likely not with all oxides. According to the figures cited by Tovarov, it is impossible to compose 3 two-component mixtures which comply with the required contents of 22.49 % of SiO_2, because a mix-

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

101-4-5/13

TITLE: Graphic Calculation Methods for Raw Cement Mixtures According to a Given Mineralogical Composition of Clinkers (Graficheskiy metod rascheta tsementnykh syr'yevykh smesey po zadannomu mineralogicheskomu sostavu klinkera)

ture of clay (71.52% SiO_2) with tripolite (84.14% SiO_2) can not, under any circumstances, contain 22.49 % of SiO_2. For the same reason it is not possible to compose a mixture containing 6.46% of Al_2O_3.

The limited possiblities of the Tovarov method do not reduce its value, however, it would be more accurate to call this a graphic-analytical method, since all his calculations of two-component mixtures were established by computation. However, the computation may be fully replaced by graphic constructions. Such a graph is shown in the article. The percentage of limestone is horizontally marked on its lower part for each of the 3 two-component mixtures. On the verticals, which cross the 0-100 scale, subdivisions designate the percentage of CaO, SiO_2 and Al_2O_3. Knowing the contents of SiO_2 and Al_2O_3 in each two-component mixture included in the compilation of a three-component mixture, the composition of the mixture can

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

101-4-5/13

TITLE: "Graphic Calculation Methods for Raw Cement Mixtures According to a Given Mineralogical Composition of Clinkers" (Graficheskiy metod rascheta tsementnykh syr'yevykh smesey po zadannomu mineralogicheskomu sostavu klinkera)

be found by using the graphs prepared by L.S. Blokh. The method proposed by V.V. Tovarov for the calculation of mixtures consisting of 4 or more components eliminates complicated and difficult equations with 4 and more variables.

The article contains 1 graph.

INSTITUTION:

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 3/3

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, L.S., insh.

Plotting logarithm nomograms for determining cutting conditions. Vest. mash. 38 no.3:56-58 Mr '58. (MIRA 11:2)
(Metal cutting) (Nomography (Mathematics))

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, Lev Samuilovich; PTITSYNA, V.I., red. izd-va; DOBUZHINSKAYA, L.V., tekhn. red.

[Triangular system of coordinates and its use in metallurgical calculations] Treugol'naia sistema koordinat i ee primenenie dlia metallurgicheskikh raschetov. Izd.2., dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1962. 157 p. (MIRA 15:3)
(Metallurgy—Tables, calculations, etc.)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Blokh, L. Ye

CA

13

Thermal insulation for hot pipes. L. E. Blokh. Russ. 54,360, Jan. 31, 1939. Tripoli, diatomite, etc., are mixed with water and CaO with or without other materials and the mixt. is placed on the hot pipe to form Ca hydrosilicate.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, M. O.

Cast blades for sectional cutters. Stan. i instr. 33 no.10:34 O '62. (MIRA 15:10)

(Metal-cutting tools)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

NOVAKOVSKIY, V.M.; LAPSHINA, E.F.; BLOKH, M.Sh.

Effect of composition and structure of iron-carbon alloys on corrosion in concentrated sulfuric action in conditions of flow. [Trudy] UNIKHIM no.9:101-113 '61. (MIRA 15:12)
(Pipe, Cast iron--Corrosion)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

POLUBOYARTSEVA, L.A.; ANISIMOVA, L.M.; BLOKH, M.Sh.; NOVAKOVSKIY, V.M.

Corrision behavior of carbon steel in nitrose acids. Khim. prom. no.10:782-785 O '63. (MIRA 17:6)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, M.V., inzh.

Some problems of the dynamics of the wheel pair in the passage over rail joints. Vest. TSNII MPS 21 no.1:8-12 '62. (MIRA 15:2)

1. Khar'kovskiy teplovozostroitel'nyy zavod im. V.A.Malysheva.
(Car wheels)
(Railroads--Rails)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, M.V., inzh.; GARKUSHA, P.N., inzh.; DORFMAN, Yu.I., inzh.; SHVARTS, Ya.I., inzh.

Dynamic strength of the cooler fan wheels of TEZ and TE10 diesel locomotives. Vest.TSNII MPS 20 no.5:21-25 '61. (MIRA 14:8)

1. Khar'kovskiy teplovozostroitel'nyy zavod im. V.A.Malysheva.
(Diesel locomotives--Cooling)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, N. P., Cand ~~Eim~~ Tech Sci -- (diss) "Ways of improving the effectiveness of the system of top slicing. (According to the ~~EXPERIENCE~~ example of Ural pyrite deposits)." Len, 1957. 13 pp (Min of Higher Education USSR, Len Orders of Lenin and Labor Red Banner Mining Inst im G. V. Plekhanov), 100 copies (KL, 2-58, 113)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2"

"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

ABOZIN, V.G.; ROMANOVA, M.G.; BLOKH, N.V.; GREBENKINA, L.G.

Kinetic study of the dyeing of cellulose fibers with vat dyes under various alkalinity conditions of the dye bath. Izv. vys. ucheb. zav.; tekh. tekst. prom. no.4:108-115 '63. (MIRA 16:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, O.G.; ZHELUDEV, I.S.; SHAMBUROV, V.A.

Electro-optical effect in pentaeritrite $C(CH_2OH)_4$ crystals.
Kristallografiia 8 no.1:50-56 Ja-F'63 (MIRA 17:7)

1. Institut kristallografii AN SSSR.

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Bloch O.

1A

2

Velocity of the reaction between organic per acids and cyclohexene. S. Medvedev and O. Bloch. *J. Phys. Chem.* (U. S. S. R.) 4, 721-30(1933).—Studies of perbenzoic, *p*-methoxyperbenzoic, *p*- and *m*-nitroperbenzoic, α- and β-pernaphthoic, peracetic and phenylperacetic acids show that the reaction between org. peroxides and cyclohexene at 25° in the main follows the bimol. law. *K*, calcd. as a const. of the 2nd order, is a function of the initial concn. of peroxide, but does not depend upon the initial concn. of cyclohexene. The nature of the solvent affects greatly the speed of reaction of peroxide with cyclohexene; the ratio (*K* in benzene) / (*K* in xylene) being const. with an av. value 1.76. The reactivities of acyl radicals of these peroxides are in the same order as for the corresponding acyl halides. The values of *K* at 25 ± 0.1° increase in the same order and are for the per acid in benzene at 25° and in xylene at 0° and 25°, resp., as solvents: peracetic —, 0.007, 0.0720; perbenzoic 0.894, 0.0663, 0.508; phenylperacetic —, —, 0.103; *p*-methoxyperbenzoic —, 0.059, 0.212; α-pernaphthoic 0.877, 0.0621, 0.519; β-pernaphthoic —, —, 0.540; *p*-nitroperbenzoic 4.10, 0.209, 2.24; *m*-nitroperbenzoic —, 0.243, 2.19. The energy of activation is fairly const. and equal to 14,000 cal., while the Arrhenius coeff. β varies from 2×10^8 for *p*-methoxybenzoic to 4×10^{11} for *p*-nitrobenzoic acid.

F. H. R.

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BLOKH, O.I

2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

The true nature of the relation of the catalytic activity to the composition of the promoter. O. I. Blokh and N. I. Kobozev. *J. Phys. Chem.* (U. S. S. R.) 8, 492 [illegible] (1936).—The function of Al_2O_3 in Fe_2O_3-lattice catalysts is discussed. P. H. Rathmann

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28-6-6/40

Choosing the Parameters for Precision Worm Gear Transmissions of Indexing Mechanisms

the effect of the helical tooth surface errors; the interaxis distance error (which has the smallest influence) decreases with a decreasing profile angle of the generating tooth surface; it is advisable to increase the interaxis distance by increasing the diameter of the worm wheel.

There are 3 drawings, 5 diagrams and 3 Russian references.

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Card 2/2 1. Industry-USSR 2. Worm gears-Standards

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

BLOKH, O. I.: Master Tech Sci (diss) -- "Investigation of the precision of meshing of worm transmission spacing (reading) mechanisms". Leningrad, 1959. 11 pp (Min Higher Educ USSR, Leningrad Polytech Inst im M. I. Kalinin), 150 copies (KL, No 13, 1959, 104)

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"APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205530004-2

B Lakh, O.T.

25(2) PHASE I BOOK EXPLOITATION SOV/2095

Konferentsiya po voprosam raschota, konstruirovaniya i issledovaniy zubchatykh peredach i peredach gibkoy svyaz'yu. Odessa, 1957

Raschet, konstruirovaniye i issledovaniye peredach; trudy konferentsii, [t.] 1 (Design, Construction and Analysis of Transmissions; Transactions of the Conference on Problems in Design, Construction and Analysis of Gear and Flexible Transmissions, Vol 1) [Odessa] Odesskiy politekh in-t, 1958. 199 p. 5,000 copies printed.

Sponsoring Agencies: Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti, Odesskoye oblastnoye pravleniye, and Odesskiy politekhnicheskiy institut.

Ed.: I.P. Nikiforov, Engineer; Tech. Ed.: A. N. Komissarenko; Editorial Board: L.S. Borovich, Candidate of Technical Sciences, M.S. Belyayev, Engineer, M.D. Genkin, Candidate of Technical Sciences, K. I. Zablonskiy, Candidate of Technical Sciences (Resp. Ed.), F. S. Zak, Candidate of Technical Sciences, Ya.G. Kist'yan, Candidate of Technical Sciences, V. N. Kudryavtsev, Doctor of Technical Sciences, V.F. Mal'tsev, Candidate of Technical Sciences, M. S. Polotskiy,

Card 1/8

Candidate of Technical Sciences, and L.B. Erlikh, Candidate of Technical Sciences.

COVERAGE: This book is the first of three volumes dealing with the transactions of the conference. This first volume contains articles on the design and construction of gearings and worm gearings. The second volume treats flexible transmissions and the third, theoretical and experimental analysis of transmissions. References follow several of the articles.

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Sigov, I.V. Some Problems in the Organization of Centralized Production of Speed Reducers and Gear Drives 153

Tafas, B.S. Design for Strength of a Solid Toothed Gear, Weakened by Key or Spline Slots 163
Formulas are derived for forces and moments acting on sections of a gear weakened by spline (6 slots) and key (one slot) joints.

Klekh, O.T. Increase in the Accuracy of Kinematic Worm Gear Trains Used for Reading Mechanisms of Instruments 177
The author analyzes the accuracy of cylindrical worms and wheels for high-precision instruments. He makes recommendations for reducing the margin of error in the gear trains in order to reduce the total margin of error of the mechanism.

Belyayev, M.S., and K. I. Zablonskiy. Consideration of Simultaneous Engagement of Two Pairs of Teeth in Gearing Design 187

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The distribution of load between two pairs of meshing teeth is basically determined by the rigidity of teeth and by the errors in engagement, chiefly the accumulated error of the circular pitch, causing the cyclic character of stresses. The author states that for a pair of gears of a given type the characteristic diagram for distribution of errors can be determined. He further states that this determination has been confirmed by inspection of several lots of gears manufactured by different methods.

Resolution of the Conference on the Problems of Design, Construction, and Analysis of Transmissions 195
The resolution stresses both the progress made and the deficiencies noted in design, construction, and manufacture of gearings and worm gear trains, and in the fields of continuous speed control, chain drives, and flexible shafts.

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S/121/60/000/01/01/001

25.2000

AUTHORS: Akhmechet, L.S., Blokh, O.I., Shorgin, V.S.

TITLE: Magnetostriction Drive of Microfeeds 14

PERIODICAL: Stanki i instrument, 1960, Nr 1, pp 18 - 20

TEXT: The authors point out that the machining accuracy of parts depends to a great extent on the possibility of very small displacements of tools and blanks. Small feeds make it even possible to correct the setting of tools in order to compensate for the wear. With the aid of magnetostriction a microfeed drive is obtained which ensures stable minor displacements of tools and blanks. The principal layout of the device, based on the change in the length of a ferromagnetic nickel rod in direction of the induced magnetization, is shown in Figure 1. A description of the magnetostriction drive (magnetostrictor) is given. By using microfeed drive it is possible to effect a successive displacement of the movable parts of the machine tool during an automatic operation cycle. The minimum feed necessary for such a displacement corresponds to the magnetostrictive elongation of the nickel rod during one cycle of magnetization, while the total displacement of the movable machine tool part during repeated cycles of magnetization is limited only by the free length of the rod. The operational characteristic

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of the magnetostriction drive is determined by the following functions: 1) the variation in magnitude of magnetostrictive elongation due to different physical-chemical properties of the rod material and variations in magnetization of the coil field; 2) the effect of the resisting force on the magnitude of microfeed. Figure 2 shows the ratio of relative magnetostrictive elongation $\lambda = \frac{\Delta l_m}{L}$ for various materials.

The authors state that the limiting values of relative elongation of various ferromagnetic materials can be increased by a suitable thermal or mechanical treatment of the rod blanks. The operative qualities of the magnetostriction drive with nickel rod were analyzed on a special device (Figure 3a) which was designed and constructed at the Odessa SKB-3 Laboratory. The electric circuit of the device is shown in Figure 3b. Lever-type microgages (with graduation values of 0.001 mm) were used as measuring instruments, recording the motion of the rod. Besides, armature of electroinductive pick-ups, connected to the phase-sensitive circuit, were in contact with the two faces of the rod. Figure 4 shows the function characterizing the variation in magnitude of magnetostrictive elongation when the magnetization of the coil field is varied, in the case of absence of axial resisting forces. The effect of the force Q, gripping the magnetostrictor rod during the feed action, is illustrated by a graph shown in Figure 5. It is evident from the Graph that,

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if the resisting forces are increased, the magnetostrictive elongation of the rod is reduced according to a law approaching that of linearity. The authors emphasize that an important operative characteristic of the machine tool is the stability of the microfeed. Repeated measurements of rod elongation at different intensities of the magnetic field and duration of cycle (Figure 6) showed that the limit of errors of microfeed does not exceed 10%, while the average magnitude of error of some displacements amounted to approximately 2 - 3%. Figure 7 shows an oscillograph recording of the microfeed process. As a result of their investigations the authors draw the following conclusions: 1) At a constant load Q, generated by the forces resisting to the feed, it is necessary to select the cross-section of the nickel rod in such a way that the rated stress in it should not exceed $\sigma = 3 \div 4$ kg/mm^2. In this case that load does not lead to substantial variations of the magnetostrictive effect, and the feed magnitude during each cycle is determined by the field intensity of the coil; 2) if during the operation of the feed mechanism variable resisting forces possibly arise, the variable component of the rated compressive stress of the rod should be less than 0.5 kg/mm^2; 3) the magnetizing coil should ensure a

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Magnetostriction Drive of Microfeeds S/121/60/000/01/01/001

field intensity in the magnetic circuit of approximately 60 - 80 ampere turns/cm; 4) in order to prevent a substantial thermal elongation of the rod, the current density in the coil winding should not exceed 2 amp/mm^2. Four graphs, 1 circuit, 1 photograph, 1 diagram and 1 oscillogram.

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D040/D113

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AUTHORS: Blokh, O. I., Rabinovich, I. Sh., and Rashkovich, M. P.

TITLE: Magnetostrictive setting-up and feeding drive for precision machine tools

PERIODICAL: Stanki i instrument, 32 no. 4, 1961, 12-13

TEXT: Design and operation is described of a magnetostrictive drive suitable for micro-feed in grinders, for setting tools in diamond boring machines, and for accurate positioning of various precision machine tool mechanisms. The device ensures a pulse frequency of up to 10 per sec and feed variations from 1 to 10 μ for a base of 100 mm, whilst the existing drives of this kind produce a maximum of 1 cycle per sec (Ref. 1: L. S. Akhmechet, O. I. Blokh, V. S. Shorgin, "Stanki i instrument", No. 1, 1960; Ref. 2: J. G. Robinson, G. S. Butterworth, "Electrical Manufacturing", 1957). The drive (Fig. 1) has a rod (1) of "K-64" cobalt alloy increasing its length 90 microns per 1 meter in saturated magnetic field of a coil (2), and two hydraulic membrane clamps (3) (right and left) switching on in sequence. When the system is connected to a d.c. source, the rod portion between the

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Magnetostrictive setting-up S/121/61/000/004/002/008
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clamps magnetizes and elongates toward the released right clamp giving a push to the servo element (4) of the machine tool. The displacement magnitude depends on the length L of the rod and the saturation of magnetic field. The right clamp closes after the rod is elongated, and the left opens and the coil winding switches off. The rod contracts to initial length, the clamps assume zero position, and the cycle repeats. A nonadjustable radial-piston hydraulic pump (Fig. 2) controls the clamps. It has two cams in different planes, one controlling two 10 mm diameter pistons (d_1) and the other two 12 mm pistons (d_2). Each d_1 piston is coupled with a d_2, and the two piston couples are at a 45° angle to each other. Each pistons couple is a separate pump of 0.5 liter/min capacity at 300 rpm shaft velocity and controls one clamp. The description includes the control circuit diagram of the system, a separate diagram showing the design of the magnetic switch with an oscillating sector-shaped core, and an oscillogram of the system operation. There are 5 figures and 2 references: 1 Soviet and 1 non-Soviet bloc. The reference to the English-language publication reads as follows: J. G. Robinson, G. S. Butterworth, "Electrical Manufacturing", 1957.

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BLOKH, O.I.; KRICHEVER, S.S.; LEBENSON, M.Ye.; RASHKOVICH, M.P.

Noncontact safety device for deep drilling. Stan.i instr. 32 no.8:12-14 Ag '61. (MIRA 14:8)
(Drilling and boring—Safety measures)

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ACCESSION NR: AP4033974 S/0121/64/000/004/0013/0015

AUTHORS: Blokh, O. I.; Khvalov, Yu. G.

TITLE: Determining the parameters of a magnetostriction feed mechanism

SOURCE: Stanki i instrument, no. 4, 1964, 13-15

TOPIC TAGS: mechanical metal cutting, magnetostriction, magnetostrictive element, impulse input, magnetic coil

ABSTRACT: The authors studied the magnetostriction effects in the micro-input mechanisms of metal cutting machine tools. The differential equation for the motion of the core of magnetostriction is set up, and it is shown that the calculations for magnetostriction mechanisms must take into account the axial load on the core and the dynamic characteristics of the motion. The speed of response of the mechanism was obtained and its stability was investigated. The mechanism (see Fig. 1 on the Enclosure) consists of a ferromagnetic core (1), rigidly coupled to the movable unit (2) and two terminals (3). Under the influence of the magnetic field created by the coil (4), the length L of the free section of the core is shortened. The core is made of a material of negative magnetostriction. After removal of the field the free end of the core is fixed and the

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movable unit is shifted by a distance Δl_m. The differential equation of motion for this system is given by $M\ddot{x}+h\dot{x}+kx+Q=0$, where M is the mass of the movable unit, h the characteristic coefficient of resistance (considered to be proportional to the velocity in the first approximation), and Q the constant component friction force (dependent on the material, the state of the guiding surface and the coefficient of friction μ). Integration of the equation yields $x=e^{-\theta t}\left(C_1 e^{\sqrt{\theta^2-\omega_0^2}\,t}+C_2 e^{\sqrt{\theta^2+\omega_0^2}\,t}\right)$, where $\theta = h/\mu$ is the resistance coefficient, $\omega_0=\sqrt{k/M}$ is the natural frequency of the system, and C_1 and C_2 are constants of integration. Orig. art. has: 13 formulas and 7 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01

SUB CODE: IE NO REF SOV: 002 OTHER: 002

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ENCLOSURE: 01

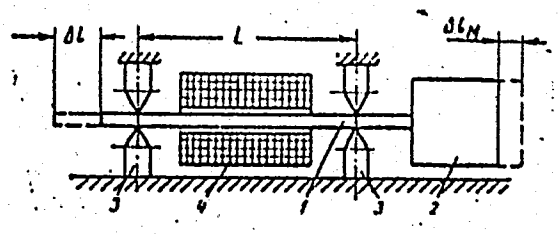

Fig. 1. Basic scheme of the magnetostriction mechanism.

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