KHOLODOVSKIY, Georgiy Yevgen'yevich; MATVEYEV, G.A., redaktor; VORONIN, K.P., tekhnicheskiy redaktor.

[Physical and chemical processes in heat engineering] Fiziche-skie i khimicheskie protsessy v teploenergetnike. Moskva, Gos. energ. izd-vo, 1955. 143 p. (MLRA 9:5)
(Heat engineering)

MATVEYEV, G. A.

MATVEYEV, G. A. (Ed.; Doctor of Technical Sciences)

Moscow. Energeticheskiy institut

Istoriya energeticheskoy tekhniki SSSR v trekh tomakh. t. 1: Teplotekhnika (History of Power Engineering in the USSR in Three Volumes. v. 1: Heat Engineering) Moscow, Gosenergoizdat, 1957. 479 p. 5,000 copies printed.

Ed.-Compiler: Konfederatov, I.Ya., Doctor of Technical Sciences; Authors: Badyl'kes, I.S., Doctor of Technical Sciences; Belindkiy, S.Ya., Candidate of Technical Sciences; Gimmel'farb, M.L., Candidate of Technical Sciences; Kalafati, D.D., Candidate of Technical Sciences; Kertselli, L.I., Professor; Kovalev, A.P., Doctor of Technical Sciences; Konfederatov, I.Ya., Doctor of Technical Sciences; Lavrov, V.N., Doctor of Technical Sciences; Lebedev, P.D., Doctor of Technical Sciences; Lukinskiy, V.V., Doctor of Technical Sciences (deceased); Petukhov, B.S., Doctor of Technical Sciences; Satanovskiy, A.Ye., Doctor of Technical Sciences; Semenenko, N.A., Doctor of Technical Sciences; Smel'nitskiy, S.G., Candidate of Technical Sciences; Sokolov, Ye.Ya., Doctor of Technical Sciences; Chistyakov, S.F., Candidate of Technical Sciences, and Shcheglyayev, A.V., Corresponding Member, USSR Academy of Sciences; Editorial Board of set: Bel'kind, L.D., Doctor of Technical Sciences; Glazunov, Doctor of Technical Sciences; Golubtsova, V.A., Doctor of Technical Sciences; Zolotarev, T.L., Doctor of Technical Sciences; Izbash, S.V., Doctor of Technical Sciences; Kirillin, V.A., Corresponding Member, USSR Academy of Sciences;

Konfederatov, I.Ya., Doctor of Technical Sciences; Margulova, T.Kh., Doctor of Technical Sciences; Meshkov, V.V., Doctor of Technical Sciences; Petrov, G.N., Doctor of Technical Sciences; Sirotinskiy, L.I., Doctor of Technical Sciences; Styrikovich, M.A., Corresponding Member, USSR Academy of Sciences; and Shneyberg, Ya.A., Candidate of Technical Sciences. Ed.: Matveyev, G.A., Doctor of Technical Sciences; Technical Ed.: Medvedev, L.Ya.

PURPOSE: The book is intended for technicians in all branches of heat engineering.

COVERAGE: This book presents the development of the basic branches of heat engineering in the Soviet Union and it is the first volume of 3 volumes entitled History of the Power Technology in the USSR. The first chapter gives a concise history of the development of heat engineering from its very beginning to the middle of the 19th Century when the fundamentals of the theoretical heat engineering were established. A detailed description of the development of heat engineering in pre-Revolutionary Russia is given in Ch. 2 to 5 and its status before 1917 is described. In the main part of the volume, Ch. 6 to 16, the development of various branches of the Soviet heat engineering is presented. The theoretical fundamentals of heat engineering, of manufacturing boilers, turbine installations of heat power plants, district heating, heat control, automation of thermal processes, and cooling techniques are covered extensively. Each chapter is supplemented with a bibliography. The book is illustrated with photographs, charts and diagrams, worked out by the authors of the respective chapters. At the end of the book there is a chronological list of significant events in the development of heat engineering.

MATVEYEV, G A

301

AUTHOR: Markov, N.M. and Matveyev, G.A., Candidates of Technical Sciences.

TITLE: On determining the flow rate of the operating medium through the ring (cascade) of turbine blades (K voprosu ob opredelenii raskhoda pabochego beshchestva cherez venets (reshetku) turbinnykh lopatok.)

PERIODICAL: "Energomashinostroenie" (Power Machinery Construction) 1957, No. 2, pp. 14 - 15, (U.S.S.R.)

ABSTRACT: Existing methods are reviewed and a new method is proposed, which is based on utilising the epures of the pressure (speed) distribution along the contour of the profile. The increasing initial steam parameters bring about a considerable decrease of the flow surfaces in the first stages of the turbines and lead to a reduction of the height of the blades in these turbines and, thus, to a decrease in the efficiency owing to the increase of the relative importance of the end losses. For reducing their influence, blades with small outflow angles (8 to 11 °) of the stream are used. It is shown that, for such cascades, utilisation of experimental data of the outflow angles of the flow may lead to considerable errors in determining the rate of flow of the operating medium. Modern, experimental, aerodynamic methods enable determination of the outflow angle of the flow with an accuracy of ± 1% and for such accuracy, the error in determining the rate of flow of the operating medium for small outflow angles may reach

On determining the flow rate of the operating medium through the ring (cascade) of turbine blades. (Cont.) 301

10 - 14%. The here described method enables a more accurate determination and is partly based on utilising the loss coefficient, which can be determined in wind tunnels with an accuracy of about 3%; for such an accuracy, the factor entering in the relevant equation will not exceed 0.01% for a value of 0.03, of this coefficient of 0.03.

1 figure. 1 Russian reference.

MATVEYEV, G.A.

MATVEYEV, G.A., kandidat tekhnicheskikh nauk; MAMASYAN, Yu.G., inzhener.

Determining friction and windage losses in hydroturbine rotors.
Sudostroenie 23 no.6:12-15 Je '57. (MLRA 10:7)
(Marine turbines) (Hydraulic turbines)

SOV/96-58-11-7/21

AUTHOR: Styrikovich, M.A., Corresponding Member of the Academy of Sciences USSR
Matveyev, G.A., Doctor of Technical Science
Popyrin, L.S., Engineer

TITLE: The Selection of End Pressure (Vacuum) for Large Regional Electric Power Stations (Vybor konechnogo davleniya dlya GRES bol'shoy moshchnosti)

PERIODICAL: Teploenergetika 1958, Nr 11, pp 42-46 (USSR)

ABSTRACT: In designing large power stations it is not usual to make individual prescriptions for the technical and economic features of the condensing equipment and water-supply systems. On the contrary, to secure the greatest possible standardisation, the turbine manufacturers make a single type of condenser for a given type of turbine. As will be seen from Table 1, all Soviet turbines now produced or projected are intended for a vacuum of 0.03 - 0.035 atm and have condensers with a specific steam loading in the range 35 - 46 kg/m^2 hr. The power station water-supply is designed in accordance with the manufacturer's data on the

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The Selection of End Pressure (Vacuum) for Large Regional Electric Power Stations

condensers. This leads to irrational results; in a number of large power stations with turbines of 200 MW located in various climatic regions and burning fuels of different costs, identical condensers are used as observed in Table ?. The turbine manufacturers should now provide a range of condenser sizes for each type of turbine. Fuel costs are particularly important in this matter since they may range from 140 roubles per ton in the European part of the country to 10 roubles per ton in Siberia. Local climatic conditions and, therefore, cooling-water temperature, vary widely. Cooling-water conditions are at present simply taken from an All-Union standard. Determination of the vacuum from the annual mean cooling-water temperature gives rise to considerable error and it would be better to use monthly mean figures. The conditions that should be assumed for technical and economic calculations on condensers are then discussed. In

The Selection of End Pressure (Vacuum) for Large Regional Electric Power Stations

determining the power consumption of circulating pumps, allowance is made for a considerable reduction in output during the winter season. Fig.2. graphs the relationship between power **expenditure** on circulation-pump drive and power loss in the turbine resulting from impaired vacuum for three different climatic regions of the country. The method of making economic comparisons between different types of condensing conditions is explained. Replacement and repair costs for two variants are compared in table 3. A graph showing various condenser characteristics as a function of fuel cost and cooling-water temperature is given in Fig.3. The increased useful output of electricity as a function of the cooling-water temperature and fuel costs is seen in Fig.4. The results of calculations of the best water-velocity in the condenser are plotted in Fig.5. The following conclusions are drawn from the calculations. The optimum vacuum in the condenser of a turbine type PVK-200 depends considerably on the cooling-water

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temperature and the price of fuel; it ranges from 0.025 atm for a cooling-water temperature of 6°C and expensive fuel to 0.45 atm for 15°C and cheap fuel. The standard condenser supplied by the Leningrad Metal Works for turbine type PVK-200 does not permit the greatest economy to be obtained particularly in southern regions or where fuel is expensive. A further two or three types of condenser should be designed for this turbine and characteristics are recommended. Various other recommendations of the same kind are made about condenser design. There are 5 figures, 3 tables and 2 literature references both of which are Soviet.

ASSOCIATION: Energeticheskiy institut AN SSSR (Power Institute, Academy of Sciences, USSR)

MATVEYEV, Georgiy Alekseyevich; ISLANKINA, T.F., red.; SAVCHENKO, Ye.V., tekhn.red.

[Large thermal power plants] Moshchnye teplovye elektrostantsii. Moskva, Izd-vo "Znanie," 1959. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.4, Nauka i tekhnika, no.19) (MIRA 12:8)
(Electric power plants)

AUTHOR: Matveyev, G.A., Professor SOV/26-59-1-22/34

TITLE: Ways of Power-Engineering Development in the USSR (Puti razvitiya energetiki v SSSR)

PERIODICAL: Priroda, 1959, Nr 1, pp 73 - 82 (USSR)

ABSTRACT: The author gives a brief survey on the electrification of Russia after the October Revolution. In 1957, nearly 210 billion kwh of electric energy were produced in the USSR, 233 billion kwh in 1958. Of this power, about 70% is used for industrial purposes. By 1960 electric-energy production is to reach 320 and by 1965 500 to 520 billion kwh. (grph 1). In order to meet this last figure, the capacity of the electric power stations is to be 108 to 112 million kw, which requires a capacity of 60 to 65 million kw to be provided for in addition to the existing 50 million kw. The present annual accretion rate of 5 to 6 million kw is to rise to 8 to 9 million kw during the individual years of the new 7-Year Plan, and to 10 to 11 million kw toward the end of the plan period. By 1975, the production of electric energy

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is to reach 1,200 billion kwh or a total power plant capacity of 200 million kw. When the Volzhskaya GES (Volga Hydroelectric Power Plant), having a capacity of 2,100,000 kw (20 turbines operating), was put into operation, Khrushchev pointed out that the construction of large thermal power plants during the new plan period will be more important than that of hydro-power plants. While the construction of the Volga Hydroelectric Power Plant took seven years and the cost per installed kw was about 4,000 rubles, the construction of a thermal power plant of a similar capacity would not exceed 4 to 5 years with a cost of 600 to 700 rubles per installed kw. Consequently, the electric power stations with a total capacity of 60 to 65 million kw, to be built by 1965, will consist of thermal power plants with a total capacity of 53 to 55 million kw and hydroelectric power plants with a total capacity of about 8 million kw. With respect to the country's consumption of the principal kinds of fuel for industrial purposes, the

swing will be from coal to oil and natural gas (table 1). Hydroelectric power at present contributes 18.7% or 40 billion kwh of the USSR's power production, thermal power over 80%. Stress will be placed on the construction of thermal power plants, while hydroelectric power plants will assume special importance in certain areas. A survey of past and recent turbines and boiler units (Figures 3 and 4) shows that both grew in size, capacity and useful parameters to equal any similar product of any firm on earth. The establishment of powerful condensing stations will permit the construction of ever larger power aggregates. By 1965, the unit capacity of the thermal condensing stations will grow to 2,400,000 kw and that of turbogenerators to 300 to 600 thousand kw at steam parameters of 240 atmospheres, a temperature of 580°C and an intermediate heat of 565°C. These conditions will increase the importance of continuously operating coil boilers suitable for operation in the supercritical parameters of pressures

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over 225 atmospheres. These boilers for 240/580°/565° will comprise 30% of the new installations by 1965. The plan provides for the installation of 100 turbines of 100,000 kw each, over 100 of 150,000 and 200,000 kw, over 40 of 300,000 kw, and 3 of 600,000 kw each. The capacity of one of the latter would equal the total capacity of the Dnepr GES, or that of 10 Volkhov GESes, while three such turbines would equal the capacity of all electric power stations in Russia in 1913. Automation and remote control and many other technical and mechanical improvements will be added, while expenses will be lowered, construction time reduced and fuel consumption lessened. The Yuzhno-Ural'skaya elektrostantsiya (South-Urals Electric Power Station - fig. 8) is a good example of a present-day large thermal power plant which may serve as a model for other projects. The use of natural gas for fuel purposes will bring forth the installation of gas turbine units of about 3 million kw capacity. Outside of the general energy system, isol-

ated gas-turbine electric stations with aggregates of 25 to 50,000 kw each and a combined capacity of 100 to 200,000 kw are planned. Seven such stations would have an aggregate capacity of over 1 million kw with no worse indices than steam-turbine stations have. The installation of 9 electric power stations of the open type of an aggregate capacity of 4 million kw and of 11 stations of the half-open type of about 14 million kw is imminent. Projects on steam parameters of 400 atmospheres and 700° and still more powerful units for condensing stations are under way. Their production requires new types of steel. The plan also provides for the installation of hydrostations of a total capacity of about 8 million kw. The ratio of the projected Yeniseyskaya GES (Yenisey GES), 6,000,000 kw and turbines of 300,000 kw, seems to be much more effective than those of existing hydro power plants (table 2). It will have a mean annual energy output of about 35 billion kw/h at a cost price of about 0.4 kopeks per kw/h. The

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Volga cascade of 12 GESes (Figure 8) will have an annual energy output of 30 billion kw /h a year. The Siberian GESes are of paramount importance for the establishment of a united energy grid for Siberia. The USSR's first atomic power station (Figure 9) of 5,000 kw capacity consumes about 30 grams of fuel for its energy production in 24 hours as compared with 100 tons of coal that would be required for a similar non-atomic station. At the end of 1958, construction of the first section of a large atomic power station of 100,000 kw, to become a 600,000-kw power station upon completion of all planned sections, was started. The 1956 to 1960 period provides the start of construction of atomic power stations of an aggregate capacity of 2 to 2.5 million kw. Several atomic power stations of 400 to 600,000 kw each

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are to be built in regions that are far away from any fuel deposits. There are 5 graphs, 2 diagrams, 2 photos, and 1 Soviet reference.

ASSOCIATION: Energeticheskiy institut im. G.M. Krzhizhanovskogo AN SSSR /Moskva (The Power Engineering Institute imeni G.M. Krzhizhanovskiy of the AS USSR /Moscow)

SOV/96-59-4-6/2

AUTHORS: Styrikovich, M.A., Corresponding Member of the Academy of Sciences of the USSR,
Matveyev, G.A., Doctor of Technical Sciences and
Popyrin, L.S., Engineer

TITLE: Selection of the Best Unit Outputs for Single and Two-shaft Turbines (Vybor optimal'nykh yedinichnykh moshchnostey odnoval'nykh i dvukhval'nykh turbin)

PERIODICAL: Teploenergetika, 1959, Nr 4, pp 31-38 (USSR)

ABSTRACT: The advantages of using very large turbines are first discussed. The problem then arises of when to make them with one and when with two shafts. The common Soviet practice of making single shaft turbines of up to 400 MW with a minimum number of exhausts does not adequately take account of actual operating conditions in the majority of regions of the Soviet Union. The maximum output that can be obtained from a single exhaust condensing turbine with given initial steam conditions and regenerated cycle is governed by the flow of steam through the section of the last stage of the turbine. In the next few years the turbine manufacturers will use last blades 940 mm long at 3,000 rpm which give an outlet

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Selection of the Best Unit Outputs for Single and Two-shaft Turbines

area of 7.3 sq m. Further increase in the total exhaust section and consequently in the turbine output can be obtained by subdividing the steam flow in the last stages of the turbine. There are two practical ways of doing this: either by increasing the number of exhausts to three or four for a single shaft turbine or by using two shaft turbines. The advantages of these approaches are considered in relation to normal cooling water temperatures. The influence of fuel cost on the best size of turbine is also considered. Technical and economic calculations were made for a turbine type PVK-400 in the five variants illustrated in Fig.1 in order to determine the best final steam conditions and the best value of loading of the exhaust section of the last stage. The first variant uses a single shaft, the second and third use two shafts each running at 3,000 rpm with 6 and 8 exhausts respectively. The fourth and fifth variants are two shaft sets running at different speeds.

Card 2/4 Curves showing the variation in output of these variants

Selection of the Best Unit Outputs for Single and Two-shaft Turbines

as the pressure in the condenser is altered are given in Fig.2. The factors that were taken into account in the calculation are described, they include the cost of the turbine, the cost of the generator and the cost of the foundations. These cost data are collected together in table 1. The construction and operating costs are compared using eq.4 with a pay-off time of ten years. Efficiency and output curves for the different variants are given in Fig.4. When the final steam conditions that have been adopted for currently produced and proposed future sets, which are given in table 2, are compared with the optimum values, see Fig.3, it will be found that the turbines of the Leningrad and Khar'kov Works cover a very narrow range of variation of the magnitudes that govern the final steam conditions and this reduces the efficiency of power stations using these turbines because insufficient attention is paid to actual operating conditions. Curves relating the best limiting output of a single shaft turbine with the price of fuel and the cooling water temperature are given in Fig.5. It is seen that in a number of regions of the Soviet Union the

Selection of the Best Unit Outputs for Single and Two-shaft Turbines

limiting output of a single shaft turbine ranges as follows: 200 - 250 MW for the South-West and Central European part and 350 - 400 MW for Siberia and the South. The best limiting output for two shaft turbines with various total exhaust areas, fuel prices and cooling water temperatures are given in Fig.6. It will be seen from this figure that in different regions of the Soviet Union the best maximum output of a two-shaft turbine varies over a wide range or, to put it another way, for a turbine of a given output the total exhaust area of the last stages should vary over a wide range to suit different conditions. There are 6 figures, 2 tables and 1 Soviet reference.

ASSOCIATION: Energeticheskiy Institut AN SSSR (Power Institute Ac.Sc. USSR)

STYRIKOVICH, M.A.; MATVEYEV, G.A., doktor tekhn. nauk; POPYRIN, L.S., inzh.

Selecting the end pressure and passage cross sections for the last stages of high-capacity steam turbines. Elek. sta. 30 no.3:34-40 Mr '59. (MIRA 12:5)

1.Chlen-korrespondent AN SSSR (for Styrikovich).
(Steam turbines)

MATVEIEV, G.A., prof.

Course of the development of electric power in the U.S.S.R.
Priroda 48 no.1:73-82 Ja '59. (MIRA 12:2)

1. Energeticheskiy institut imeni G.M.Krzhizhanovskogo AN SSSR, Moskva.
(Electric power)

MATVEYEV, G.A., doktor tekhn.nauk prof.; BELYAYEV, V.I., inzh.

Choice of optimum gas velocities in tubular air preheaters of boiler systems. Izv.vys.ucheb.zav.;energ. 3 no.10:88-92 O '60.
(MIRA 13:11)

1. Energeticheskiy institut imeni G.M.Krzhizhanovskogo AN SSSR.
(Boilers) (Air preheaters)

STYRIKOVICH, M.A.; MATVEYEV, G.A., doktor tekhn.nauk; BELYAYEV, V.I., inzh.

Selecting the optimal temperature for flue gases of power boilers. Teploenergetika 7 no.7:27-32 Jl '60. (MIRA 13:7)

1. Energeticheskiy institut AN SSSR. 2. Chlen-korrespondent AN SSSR (for Styrikovich).
(Boilers)

MATVEYEV, G.A., doktor tekhn.nauk; BELYAYEV, V.I., inzh.

Choice of optimum gas velocities in feed-water economizers.
Elek. sta. 31 no.9:16-19 S '60. (MIRA 14:10)
(Boilers)

MATVEYEV, Georgiy Alekseyevich; NOVIKOV, I.I., red.; MATVEYEVA, A.V., red.; VLASOVA, N.A., tekhn. red.

[Power equipment of atomic electric power plants; steam generators and flame steam superheaters] Energooborudovanie atomnykh elektrostantsii; parogeneratory i ognevye paro-peregrevateli. Pod red. I.I.Novikova. Moskva, Gos.izd-vo lit-ry v oblasti atomnoi nauki i tekhniki, 1961. 197 p. (MIRA 15:1)

1. Chlen-korrespondent AN SSSR (for Novikov).
(Atomic power plants--Equipment and supplies)

S/124/62/000/008/015/030
I006/I242

26.2311

AUTHORS: Matveyev, G.A. and Ivanov, P.D.

TITLE: The prospects of establishing naval power installations on the basis of magnetohydrodynamic interaction

PERIODICAL: Referativnyy zhurnal, Mekhanika, no.8, 51, abstract 8B330. (Sudostroyeniye, no.2, 1962, 32-36)

/B

TEXT: The possibility of utilization of magnetohydrodynamic interaction for direct conversion of heat (nuclear or hydrocarbon) into electrical energy is discussed with regard to naval power installations. Basic equations which characterize the flow of conducting gas in the presence of electric and magnetic fields are considered as an illustration of magnetohydrodynamics in power conversion. Some information is given on the mechanism of the electrical conductivity of gas and on means for its increase. A basic diagram of a power installation which utilizes a magnetohydrodynamic generator is given as an illustration.

[Abstracter's note: Complete translation.]

Card 1/1

MATVEYEV, G.A., doktor tekhn.nauk, prof.; PIKUS, V.Yu., inzh.

Problem concerning the choice of the optimum temperature of feed water. Teploenergetika 9 no.8:73-75 Ag '62. (MIRA 15:7)
(Feed-water) (Steam turbines)

MATVEYEV, G.A., kand.tekhn.nauk; IVANOV, P.D., inzh.

Prospects for the creation of marine power plants on the basis of magnetogasdynamics. Sudostroenie 28 no.2:32-36 F '62.
(MIRA 15:3)

(Marine engines) (Magnetohydrodynamics)

MARKOV, Nikolay Mikhaylovich; PATRASHEV, A.N., doktor tekhn. nauk, prof., zasl. deyatel' nauki i tekhniki RSFSR, retsenzent; MATVEYEV, G.A., kand. tekhn.nauk, red.; SIMONOVSKIY, N.Z., red.izd-va; SPERANSKAYA, O.V., tekhn. red.

[Theory and design of turbine stages] Teoriia i raschet turbinnykh stupenei. Moskva, Mashgiz, 1963. 154 p. (MIRA 16:8)

(Steam turbines)

MATVEYEV, G.A.

Determining the period of contact for hyperboloid gears in case of lin. and point tooth contact. Trudy KAI no.81 29-34 '63.
(RA 18:4)

MATVEEV, G.A., doktor tekhn. nauk; BELYAYEV, V.I., insh.

Technical and economic basis for choosing gas velocities in transition zones and steam superheaters of boiler systems. Teploenergetika 10 no.7:12-16 Jl '63. (MIRA 16:7)

1. Energeticheskiy institut im. Krzhizhanovskogo.
(Boilers)

YEGOLAYEV, V.F.; BOGACHEV, I.N.; Prinimal uchastiye MATVEYEV, G.A.

Phase transformations and hardening during the plastic deformation of an iron-manganese alloy with molybdenum and tungsten addition elements. Fiz. met. i metalloved. 18 no.3:423-427 S '64. (MIRA 17:11)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

MATVEIEV, G.A., doktor tekhn. nauk; BELYAYEV, V.I., inzh.

Effect of economic and operational factors on the optimum characteristics of the convective section of boiler units. Teploenergetika 11 no.6:78-81 Je '64. (MIRA 18:7)

1. Energeticheskiy institut AN SSSR.

MATVEYEV, G.A., doktor tekhn. nauk, prof.; ZHELTOV, V.G., inzh.

Choice of an optimum network and parameters of the operating media of the gas stage of a steam-gas unit. Teploenergetika ... no.2:5-7 F '65. (MIRA 18:)

1. Energeticheskiy institut imeni G.M. Krzhizhanovskogo.

DZHAMALOV, S.A.; LEVKOVICH, R.A.; SUYETNOV, V.V.; MATVEYEV, G.A., otv. red.

[Heat of the earth and its practical utilization] Teplo Zemli i ego prakticheskoe ispol'zovanie. Moskva, Nauka, 1965. 108 p. (MIRA 18:9)

L 10902-67 EWT(d)/EWT(l)/EWT(m) JD/JW

ACC NR AR6031075 SOURCE CODE: UR/0277/66/000/007/0067/0067

AUTHOR: Matveyev, G. A.

TITLE: Slipping of gears in a hyperboloid transmission

SOURCE: Ref. zh. Mashinostr mat konstr i raschet detal mash. Gidropr, Abs. 7.48.454

REF SOURCE: Tr. Kazansk. aviats. in-ta, vyp. 87, 1965, 172-180

TOPIC TAGS: gear, gear slip, transmission gear, hyperboloid transmission

ABSTRACT: Problems of determining the magnitude, velocity direction, and characteristics of relative slipping of the side surfaces of gears in hyperboloid transmissions are discussed. On the basis of results of investigations, it is concluded that the tooth of a hyperboloid wheel must have a sufficiently high degree of wear resistance. In the case of a theoretical point contact, when the side surfaces of gears in one of the wheels are formed by the relative motion of a straight line, and in another by a relative motion of a low-curvature curve tangential to it, the nature of slip is determined by the slip of the point contact. The point contact of the side surfaces leads to somewhat adverse conditions for an oil

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wedge which in turn reduces the thickness of oil film. In practice, following the fitting of gears, the point contact becomes a linear contact in which, due to functional wear of the gears, the length of the contact line increases, approaching the length of a straight line of contact. Theoretically, the point characteristics of the contact eliminate the possibility of gears working with the contact at the extreme points of contact straight lines. In the case of assembly and manufacturing errors, this provides better conditions for the function of gears and a more stable thickness of the oil film. \\ [Translation of abstract]

SUB CODE: 13/

Card 2/2 bp

MATVEYEV, G.I. (Stupino, Moskovskaya oblast')

On doctor's orders. Zdorov'e 5 no.8:32 Ag '59. (MIRA 13:8)
(TOBACCO HABIT)

15-57-3-3846

Translation from: Referati nyy zhurnal, Geologiya, 1957, Nr 3, p 193 (USSR)

AUTHOR: Matveyev, G. I.

TITLE: New Constructions of Hydraulic-Feed Bits for Drilling in Weak Rocks (Novyye konstruktsii gidromonitornykh dolot dlya bureniya v myagkikh porodakh)

PERIODICAL: Novosti neft. tekhniki. Neftepromysl. delo, 1956, Nr 6, pp 4-6

ABSTRACT: Oil Drilling Division of the All-Union Scientific Research Institute has developed a bit, GS-9M (214 mm in diameter), with lateral perforations for the drilling fluids. The drilling muds are led to the hole bottom through a pipe, which is made in one piece with paddles. A strong jet of drilling fluid is directed toward the peripheral part of the hole bottom, flushing it. Large, widely spaced teeth are arranged on the surface of the cutting tool. The teeth in the last two rows are staggered. The axis of the cutting tool is displaced 5 mm.

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New Constructions of Hydraulic-Feed Bits (Cont.)

To prevent clogging, the cutting tool is provided with a central outlet (nozzle). The bit is provided with an interchangeable head, permitting use with both turbodrills and rotary drills.

Card 2/2 M. G. M.

15-57-3-3849

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 193

AUTHORS: Matveyev, G. I. Travkin, V. S.

TITLE: The Construction of a Bit Which Helps in Maintaining the Gauge of Drill Holes (Konstruktsiya dolota, uluchshayushchaya kalibrovku skvazhin)

PERIODICAL: Novosti neft. tekhniki. Neftepromysl. delo, 1956, Nr 6, pp 8-10

ABSTRACT: All cutting bits "lose" in diameter because of wearing of the peripheral teeth, and the drill holes acquire the form of a cone tapering downward. Consequently, when a new bit is lowered the shaft of the hole must be enlarged, which leads to premature wear on the cutting-tool bearing. The Oil Drilling Division of the All-Union Scientific Research Institute has made several experimental bits with strengthened bearings. They allow only a minimum slippage of the head of the peripheral teeth in the cutting tool. In planning the bit,

Card 1/2

The Construction of a Bit (Cont.)

the minimum angle for the teeth was taken as 1°30'. The angle of inclination of the shank to the axis of the bit was taken as 50°. In the new bits the points of the cutting tool, which gauge the hole, are so close to each other that the diameter of the hole is uniform throughout. Industrial testing has shown that footage of cutting with the bit is increased on the average from 18 to 20 percent. During the testing it was observed that the diameter of the hole remained constant. The whole series of bits used for enlarging the drill hole were lowered to the bottom of the hole one after the other without encountering an obstruction.

M. G. M.

Card 2/2

MATVEYEV, G.I.; BARABASHKIN, I.I.

Jet bit for geological exploration drilling. Mash. i neft'. obor. no.1:5-11 '63. (MIRA 17:1)

1. TSentral'noye konstruktorskoye byuro Ministerstva geologii i okhrany nedr SSSR.

MATVEYEV, G.K.

LESKIN, D. F., MATVEYEV, G. K.

LESKIN, D. F., MATVEYEV, G. K.

Lumbering

Loading logs with a KT-12 tractor
Mekh. trud. rab. 6 no. 5, 1952

Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED.

L 11[illegible]-67 EWT(d)/EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k)/EWP(h)/EWP(l) IJP(c) JD/HM/JH
ACC NR: AP6029673 (N) SOURCE CODE: UR/0136/66/000/008/0077/0080

AUTHORS: Krasnikov, N. Ye.; Kushakevich, S. A.; Tokmakov, P. Ya.; Kazadov, Z. A.; Shilin, O. K.; Gritsenko, Yu. P.; Matveyev, G. I.

ORG: none

TITLE: Adoption of rolling large round profiles from titanium alloys

SOURCE: Tsvetnyye metally, no. 8, 1966, 77-80

TOPIC TAGS: titanium alloy, metal rolling, metal forming

ABSTRACT: The rolling of large diameter (25 - 60 mm) titanium alloy stock was studied. Prior to rolling the specimens were heated for 10 min in an induction furnace up to a temperature of 1270--1370K, and for 5 min in a silit furnace at a temperature of 1270--1370K. A schematic of the rolling scheme is presented (see Fig. 1). The rolling margin was calculated after the formula of N. Ye. Krasnikov and N. P. Skryabin (Tsvetnyye metally, 1965, No. 4)

$$\Delta h = \frac{\Delta h \cdot B_0 \sqrt{\Delta h \cdot r}}{(H+h)^2} \times \left[1.7 - \frac{B_0 \sqrt{\Delta h \cdot r}}{(H+h)^2}\right],$$

where Δh is the absolute compression, B_0 - width of zone before passage, H and h - height of zone before and after passage respectively, and r - the radius of the working roller. It was found that the experimental data were in good agreement with

 UDC: 669.295-422.1:622.771.2

L 10686-67

ACC NR: AP6029673

10

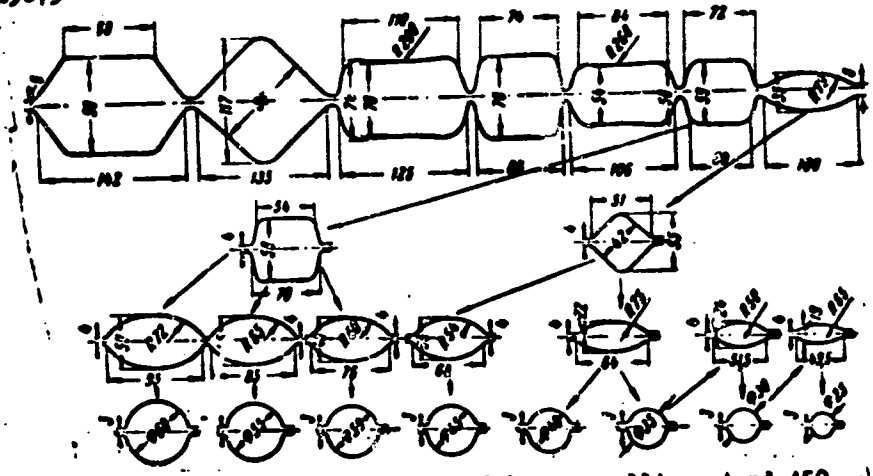

Fig. 1. Schematic for rolling large round profiles on rolling stand 450

the above equation. The degree of mold filling for hexagonal, square, and oval specimens was calculated after I. Ya. Tarnovskiy (Formoizmeneniye pri plasticheskoy obrabotke metallov, Metallurgizdat, 1953). The results are tabulated. It is concluded that rolling of large diameter stock made of titanium alloys VT1-1, VT3-1, OT4, VT5, VT5-1, VT6, VT8, VT15, VT14, and others yields products with satisfactory mechanical properties. Orig. art. has: 1 table, 3 graphs, and 4 equations.

Card 2/2 SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 001

SOV/137-58-7-14202

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 34 (USSR)

AUTHORS: Matveyev, M. A., Matveyev, G. M.

TITLE: On the Determination of the Thermodynamic Properties of Some Silicates (K opredeleniyu termodinamicheskikh svoystv nekotorykh silikatov)

PERIODICAL: V sb.: Fiz.-khim. osnovy keramiki. Moscow, Promstroyizdat, 1956, pp 504-506

ABSTRACT: The formation of a silicate of the type $Na_2O \cdot nSiO_2$ is broken down into two processes, namely, the formations of the bonds Si-O and Na-O. Modification of thermodynamic properties of ΔZ, ΔH, and ΔS (ΔG) in the process of formation of $Na_2O \cdot nSiO_2$ is registered approximately as $\Delta G^n = \Delta G_{Na} + n\Delta G_{Si}$ where ΔG^n is the variation of the property in the formation of the given silicate, ΔG_{Si} is the variation of the entropy in the formation of Si-O bonds in the metasilicate, and ΔG_{Na} is the variation in the entropy during the formation of Na-O bonds in the metasilicate; it is assumed that ΔG_{Si} and ΔG_N does not depend on n. ΔG_{Na} and ΔG_{Si} are found with the aid of tabulated data for meta- and orthosilicates; these values are used for other compositions.

Card 1/2

SOV/137-58-7-14202

On the Determination of the Thermodynamic Properties of Some Silicates

The calculations produced: $\Delta S^{o}_{Na} = -2.4$, $\Delta S^{o}_{Si} = -2.1$ entropy units. for $Na_2O \cdot 3SiO_2$: $\Delta S_{NaO_2 \cdot 3SiO_2} = 51.6$ entropy units, $\Delta H = -790.4$ kcal, $\Delta Z = -741.3$ kcal.

P. Sh.

1. Silicates--Thermodynamic properties

Card 2/2

MATVEYEV, G.M.

Relationship between the structural and thermodynamic properties of silicates. Trudy MKHTI no.24:233-236 '57. (MIRA 11:6)
(Silicates)

5(4)
AUTHOR: Matveyev, G.M. SOV/153-58-2-22/30

TITLE: On the Computation of the Thermodynamic Properties of Binary Compounds in Silicate Technology (O raschete termodinamicheskikh svoystv binarnykh soyedineniy silikatnoy tekhnologii)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp 135 - 141 (USSR)

ABSTRACT: The use of thermodynamic methods in the physical chemistry of silicates is obstructed by the lack of necessary data. For this reason the problem mentioned in the title gains high importance. In the present paper an approximate computation method of some thermodynamic properties of cristalline compounds for systems of the MeO - RO_2 and MeO - R_2O_3 type which play an important part in silicate technology is described. All compounds of the mentioned type are heterodynamic compounds (Ref 1). The concept of heterodynamism makes possible the separation of 2 parts in any compound of the mentioned type: a) of a main (skeleton) part and b) of a side (cation) part, which are to represent the main structural units. The method is based on the possibility to divide the formation process of a compound MeO.pRO_2 or MeO.pR_2O_3 from elements into 2 stages:

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1) Formation of the main structure (skeleton) by R-O bindings, and 2) Formation of the side (cation) part on the basis of weaker Me-O bindings. If the number of the binding Me-ions (at a constant molar content of MeO) then remains constant the change of the thermodynamic property (G) in the formation from elements is solely determined by the molar content of RO_2. At the increasing ratio $\frac{RO_2}{MeO}$ the bindings within the structure are not subjected to any fundamental change. For this reason the assumption is possible that the change of any thermodynamic property during the formation of a compound $MeO.pRO_2$ (or $MeO.pR_2O_3$) will be due to its change in the course of the formation of the fundamental structure and the change in the course of the addition of Me cations. According to the above considerations this will be constant for all compounds of the series $MeO.pRO_2$. Therefore the difference of the properties in the formation of these compounds is determined by the corresponding differences of the properties during the formation of the fundamental structure of the mentioned compounds. Since the difference

On the Composition of the Thermodynamic Properties of Binary Compounds in Silicate Technology

SOV/153-58-2-22/30

in the changes of the thermodynamic properties for the main structures of the compounds $MeO.RO_2$ and $MeO.pRO_2$ (or $MeO.pR_2O_3$) is determined only by the total number of the R and O atoms participating in the formation of these structures it can be said that the change of any thermodynamic property in the formation of the main structure will be $\Delta G_R^p = p\Delta G_R'$ (1), where ΔG_R^p and $\Delta G_R'$ denote the changes of the properties in the course of the formation of the main structure of $MeO.pRO_2$ and $MeO.RO_2$. In view of the above fact the change of the property during the addition of the Me cations (Ref 2) will be constant for all compounds of the series $MeO.pRO_2$ (or $MeO.pR_2O_3$) i.e. G_{Me} = Const (2). Thus, the thermodynamic properties of any other compounds in the system $MeO-RO_2$ or $MeO-R_2O_3$ can be determined on the basis of any 2 values of a thermodynamic property. This theorem is explained by means of examples. Further equations are derived which make possible the

Card 3/4

On the Composition of the Thermodynamic Properties of Binary Compounds in Silicate Technology

SOV/153-58-2-22/30

determination of the thermodynamic properties of any compound at their formation in the corresponding system. The suggested method can be applied also directly for the table values of corresponding properties. Figures 1 - 4 reveal a geometrical interpretation of this method. There are 4 figures, 2 tables, and 11 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D.I.Mendeleyeva (Moscow Chemical and Technological Institute imeni D.I.Mendeleyev) Kafedra obshchey tekhnologii silikatov (Chair of General Silicate Technology)

SUBMITTED: October 5, 1957

Card 4/4

BABUSHKIN, Vladimir Ivanovich; MATVEYEV, German Mikhaylovich; MCHEDLOV-PETROSYAN, Ottar Petrovich, doktor tekhn. nauk, prof.; RABINOVICH, I.A., red. izd-va; RODIONOVA, V.M., tekhn. red.

[Thermodynamics of silicates]Termodinamika silikatov. Pod obshchei red. O.P.Mchedlova-Petrosiana. Moskva, Gosstroiizdat, 1962. 265 p. (MIRA 16:3)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury Ukr.SSR (for Mchedlov-Petrosyan).
(Silicates--Thermodynamic properties)

MATVEYEV, M.A., prof., doktor tekhn.nauk; MATVEYEV, G.M., dotsent, kand.tekhn.nauk

"The chemistry and technology of cement" by R.Barta. Reviewed by M.A.Matveev, G.M.Matveev. Stroi. mat. 8 no.4:39-40 Ap '62. (MIRA 15:8)

(Cement) (Barta, R.)

MATVEYEV, G.M.; GANIKIRZH, V.Ya.

Thermodynamic analysis of reactions in solid phases in the system $Na_2O - SiO_2$. Trudy MKHTI no.37:44-48 '62. (MIRA 16:12)

MATVEYEV, G.M. [Matveeu, H.M.]; MATVEYEV, M.A. [Matveeu, M.A.]

Thermodynamic analysis of solid-phase reactions in the system $SrCO_3$ - SrO - SiO_2. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.3: 59-62 '63. (MIRA 16:10)

MCHEDLOV-PETROSYAN, O. P.; MATVEYEV, G. M.; SAFONOV, V. S.

"Investigation of energetics of devitrification processes as a method for studying glass structure."

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

MATVEYEV, M.A. [Matsveeu, M.A.]; MATVEYEV, G.M. [Matsveeu, H.M.]

Chemically stable alka i glasses for the manufacture of continuous fiber glass. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2:66-77 '64. (MIRA 18:1)

ACCESSION NR: AP4040505 S/0063/64/009/003/0354/0355

AUTHORS: Matveyev, G. M.; Matveyev, M. A.

TITLE: Thermodynamic analysis of solid phase reactions in the BeO-SiO_2 system

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 9, no. 3, 1964, 354-355

TOPIC TAGS: refractory material, beryllium oxide, silicon dioxide, beryllium silicate, beryllium silicate enthalpy, isobar potential, beryllium orthosilicate

ABSTRACT: The present investigation was undertaken because the interaction of BeO with SiO_2 is of great importance in the production of refractory materials and glass. The thermodynamic analysis of Be_2SiO_4 and $BeSiO_3$ of the formation from oxides was conducted. After the thermochemical data were assembled, the enthalpy of $BeSiO_3$ formation from the components was calculated by using the equation

$$\Delta H_{BeSiO_3} = \frac{1}{2}(\Delta H_{Be_2SiO_4} - \Delta H_{M_2SiO_4}) + \Delta H_{MSiO_3}$$

from an earlier paper by G. M. Matveyev (Trudy* MKhTI im. D. I. Mendeleyeva, No. 24, M., 1957, p. 233). The $\Delta H = f(T)$ and $\Delta Z = f(T)$ were calculated for the two basic reactions: $BeO + SiO_2 = BeO \cdot SiO_2$.

$2BeO + SiO_2 = 2BeO \cdot SiO_2$

Card 1/3

ACCESSION NR: AP4040505

The values for the enthalpy and the isobar potential within the temperature range of 500-1800K are presented in the graph (see Fig. 1 on the Enclosure). The authors conclude that in all instances beryllium orthosilicate would be the most stable compound and that it should be produced by crystallization from a melt or glass. Some of the thermochemical data were calculated by G. M. Matveyev. Orig. art. has: 1 table, 1 chart, 2 formulas, and 1 equation.

ASSOCIATION: Moscow khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Chemicotechnological Institute)

SUBMITTED: 22May63 DATE ACQ: 06Jul64 ENCL: 01

SUB CODE: GC, MT NO REF SOV: 005 OTHER: 000

Card 2/3

ACCESSION NR: AP4040505

ENCLOSURE: 01

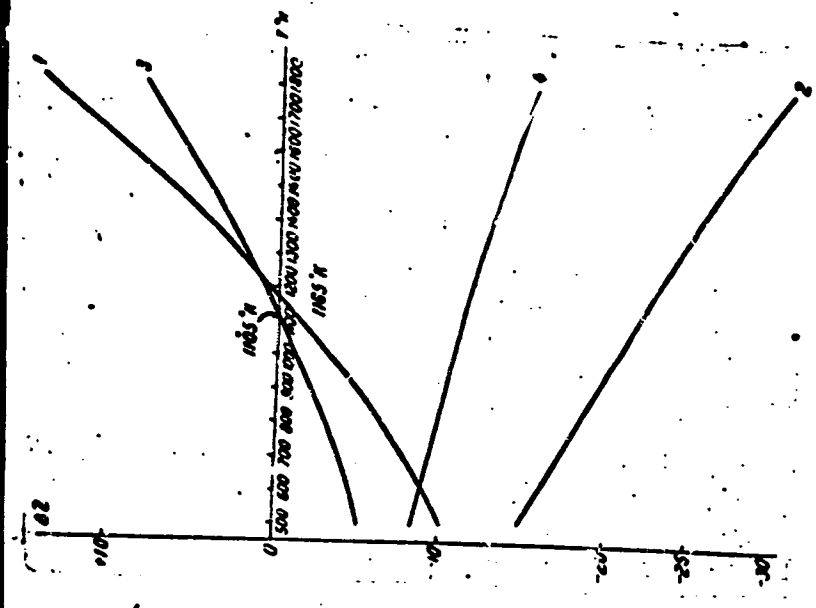


Fig. 1. The relation between ΔH° and ΔZ° reactions in the system BeO - SiO_2 and the temperature within the range of 500-1800K.

1 - ΔZ = f(T) for Be_2SiO_4; 2 - ΔH = f(T) for Be_2SiO_4; 3 - ΔZ = f(T) for $BeSiO_3$; 4 - ΔH = f(T) for $BeSiO_3$.

Card 3/3

L 33752-66 EWT(m)/EWP(e) WH

ACC NR: AR6016780 SOURCE CODE: UR/0081/65/000/023/B076/B076

26
B

AUTHOR: Matveyev, G. M.

TITLE: Effect of B_2O_3, BaO, MnO, Fe_2O_3, Na_2O and P_2O_5 additions on the crystallizability of some alkalifree glasses in the CaO-MgO-Al_2O_3-SiO_2 system 15

SOURCE: Ref. zh. Khimiya, Abs. 23B553

REF SOURCE: Sb. Steklobrazn. sostoyaniye T. 3. Vyp. 4. Minsk, 1964, 89-92

TOPIC TAGS: glass, glass property, crystallization, alkali

ABSTRACT: The effect of adding B_2O_3, BaO, MnO, Fe_2O_3, Na_2O and P_2O_5 in quantities of 2 to 8% on the crystallizability of alkalifree glasses in the CaO - MgO - Al_2O_3 - SiO_2 system was studied. Only B_2O_3 is effective in lowering the upper limit of crystallization. A minimum 3.5 to 4% additive of B_2O_3 guarantees an optimal upper limit of crystallization. The addition of small quantities of P_2O_5 results in a sharp increase in glass crystallizability. At 2% P_2O_5 the upper limit of crystallization reaches 1300°. A further increase of P_2O_5 concentration extended the upper crystallization limit up to 1350°. Ya. Shenkin.

SUB CODE: 07/ SUBM DATE: none

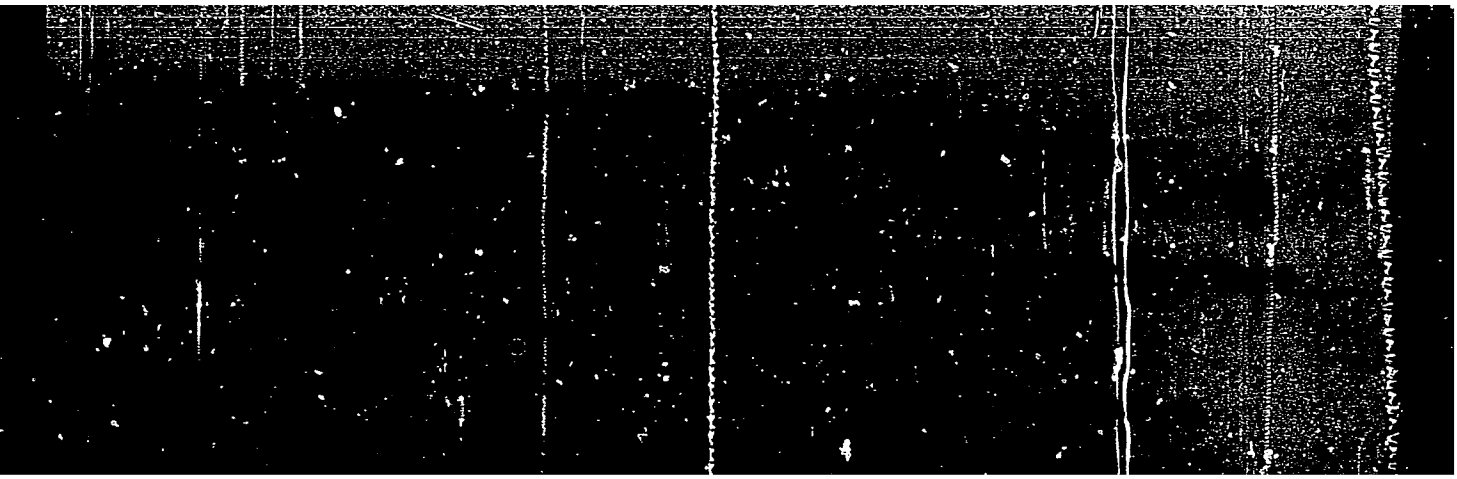
Card 1/1 BLG

MATVEYEV, G.M., kand. tekhn. nauk; RUDOY, B.L., inzh.

"Foam glass." Stek. i ker. 21 no.1:47-48 Ja '64.
(MIRA 17:8)

MATVEYEV, G.M., kand. tekhn. nauk; RUDOY, B.L., inzh.

"Measurement of heat processes." Stek. i ker. 21 no.7:41 Jl '64. (MIRA 17:10)



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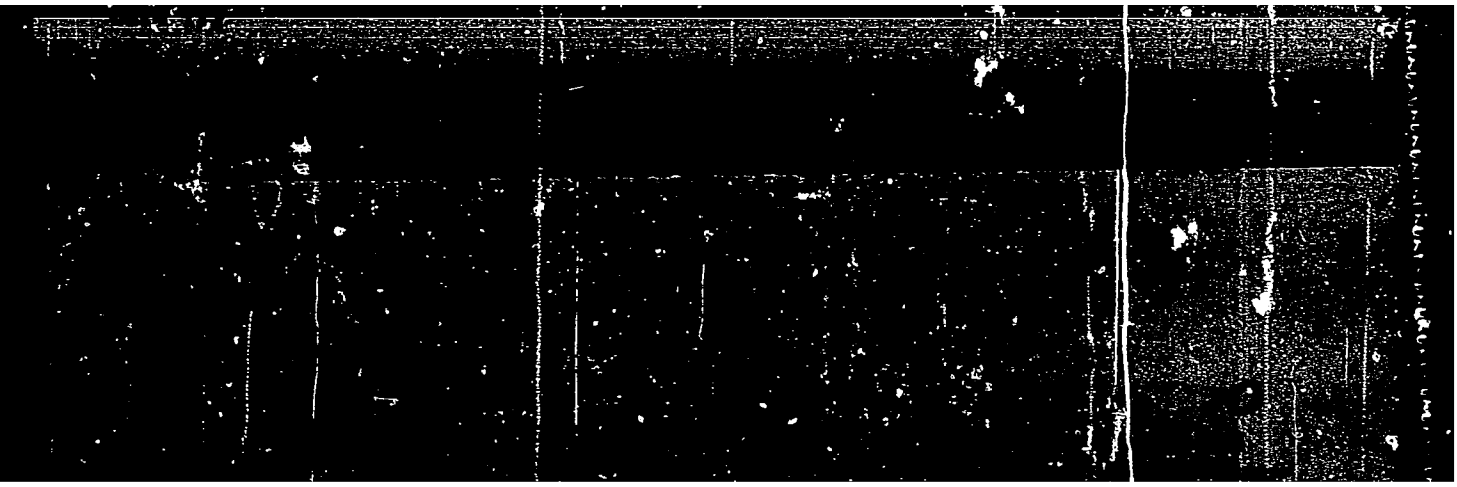
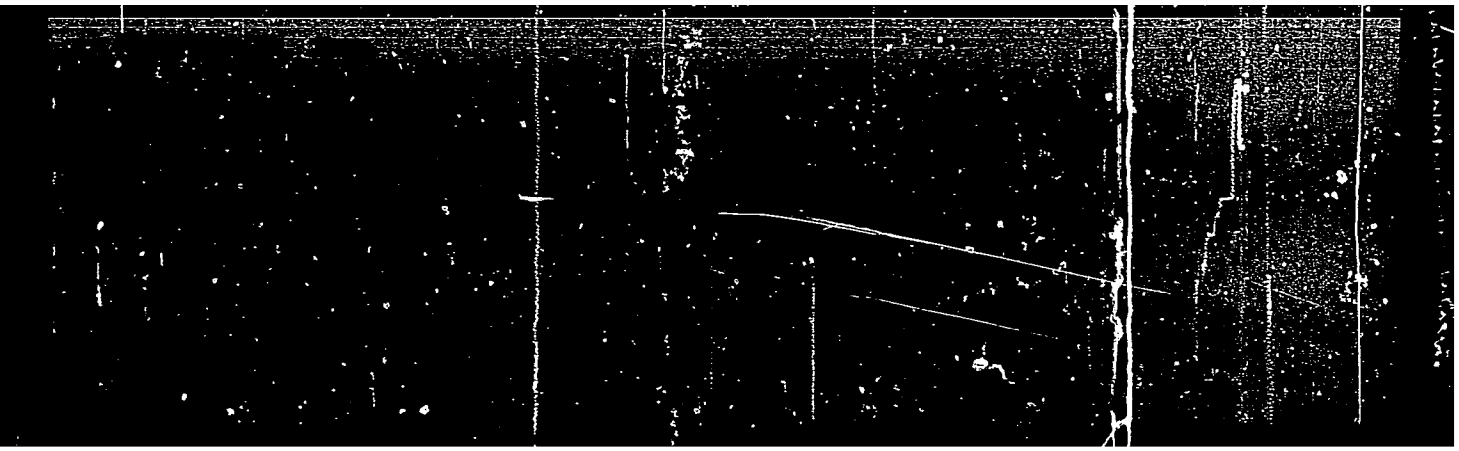


APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R032932930002-8"



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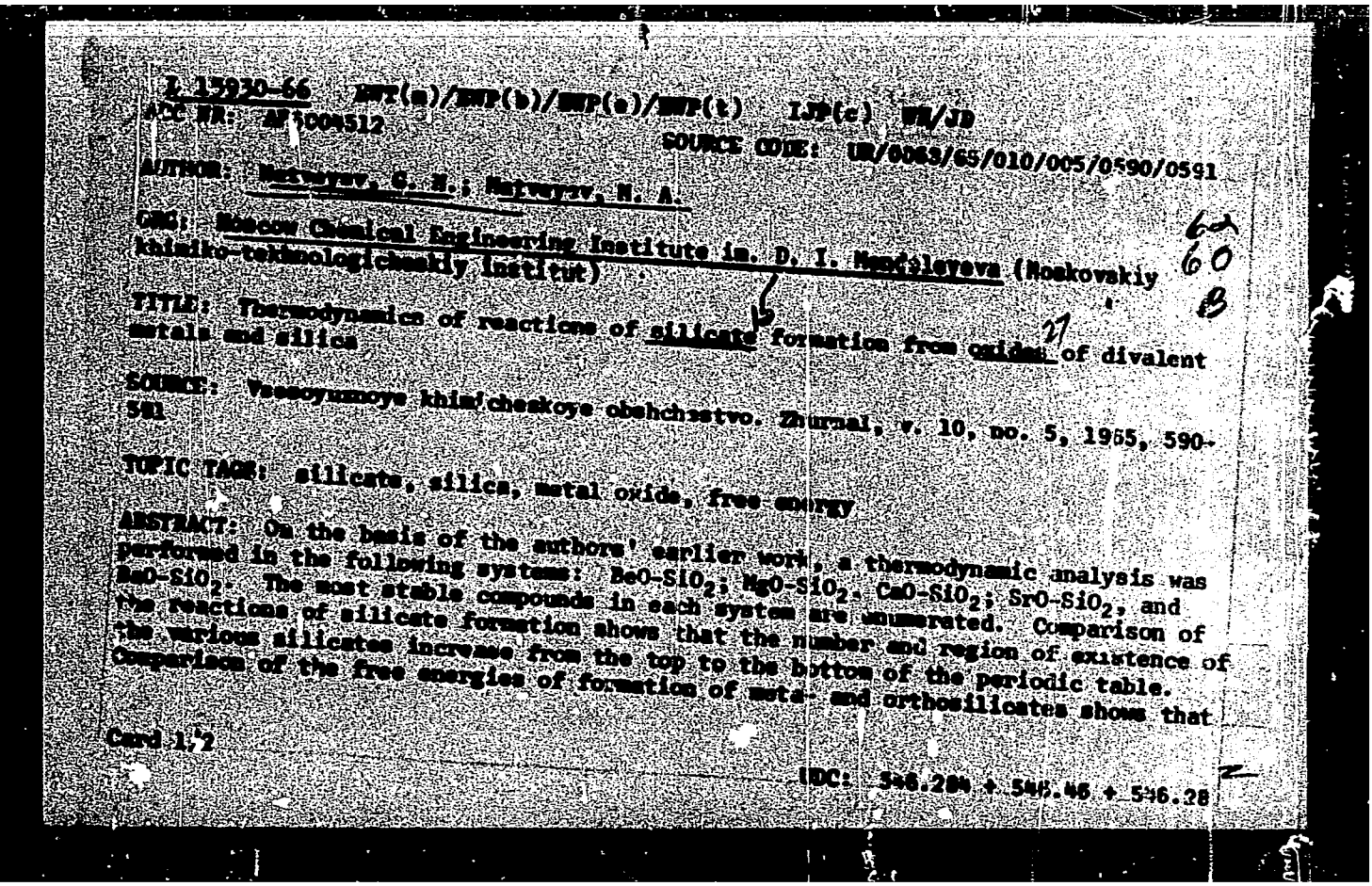
BABUSHKIN, Vladimir Ivanovich; MATVEYEV, German Mikhaylovich; MCHEDLOV-PETROSYAN, O.P., doktor tekhn. nauk, prof., red.

[Thermodynamics of silicates] Termodinamika silikatov. Moskva, Stroiizdat, 1965. 351 p. (MIRA 18:12)



L 13930-66 EWT(m)/EWP(b)/EWP(e)/EWP(t) IJP(c) WW/JD

ACC NR: AP5004512 SOURCE CODE: UR/0063/65/010/005/0590/0591

AUTHOR: Matveyev, G. M.; Matveyev, N. A.

ORG: Moscow Chemical Engineering Institute im. D. I. Mendeleyeva (Moskovskiy khimiko-tekhnologicheskiy institut)

TITLE: Thermodynamics of reactions of silicate formation from oxides of divalent metals and silica

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 10, no. 5, 1965, 590-591

TOPIC TAGS: silicate, silica, metal oxide, free energy

ABSTRACT: On the basis of the authors' earlier work, a thermodynamic analysis was performed in the following systems: $BeO-SiO_2$; $MgO-SiO_2$; $CaO-SiO_2$; $SrO-SiO_2$, and $BaO-SiO_2$. The most stable compounds in each system are enumerated. Comparison of the reactions of silicate formation shows that the number and region of existence of the various silicates increase from the top to the bottom of the Periodic table. Comparison of the free energies of formation of meta- and orthosilicates shows that

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UDC: 546.284 + 546.46 + 546.28

their stability increases from the top to the bottom of the periodic table. Thus, oxides located at the bottom of the table will displace the corresponding oxides from silicates located higher in the table. Such behavior must be taken into account when analyzing reactions used for the preparation of refractory materials, and also in the analysis of reactions of glass formation and in the determination of stable phases in the synthesis of glassceramics. Orig. art. has: 2 figures.

SUB CODE: 07/ SUBM DATE: 05Feb65/ ORIG REF: 004/ OTH REF: 000

Card 2/2

MATVEYEV, G.M.

Standards for fertilizer vitamins. Standartizatsiia 29 no. 11: 28-30 N '65 (MIRA 19:1)

L 22285-66 EWT(m)/EWP(e)/EWP(t) IJP(c) WW/JD
ACC NR: AP6007264 (A) IR/0363/66/002/002/0395/0402

AUTHOR: Matveyev, M.A.; Matveyev, G.M. Kharitonov, F.Ya.

ORG: Moscow Chemico-Technological Institute im. D.I. Mendeleyev (Moskovskiy khimiko-tekhnologicheskiy institut)

TITLE: Strength of ceramics made of pure oxides

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v.2, no.2, 1966, 395-402

TOPIC TAGS: ceramic material, inorganic oxide, high temperature strength, [illegible]

ABSTRACT: The article discusses practical applications of the relationship between the thermal and mechanical characteristics of ceramic materials. An extensive table lists the structural, mechanical, and thermophysical properties of a large number of ceramics made of pure highly refractory oxides. The comparatively low strength of industrial ceramic materials is due to the non-uniformity of their structure--the presence of non-uniformly distributed imperfect crystalline structures (dislocations, voids, foreign atoms) and of the grain boundaries, and to industrial defects (pores, chemical non-homogeneity, etc.). This leads to a drop in the energy capacity of ceramics as a result of the non-homogeneous character of the absorption of energy by different volumetric materials. From a comparison of the strength of monocrystalline oxides and monocrystalline aggregates of these oxides, we can see that the greater

Card 1/2 UDC: 666.3

L 22285-66

ACC NR. AP6007264 0

the strength of the bonds of the crystalline lattice, the greater the divergence between the strength of a single crystal and that of the oxide in the polycrystalline state. This permits the conclusion that the relative effect of the structural factor on strength decreases with a decrease in the specific energy capacity of the material. The optimum structural state of a given material is a structure which will assure the greatest uniformity in the absorption of energy by the crystalline lattice in the process of deformation of the ceramic material. Orig. art. has: 10 formulas and 1 table.

SUB CODE: 11, 20/ SUBM DATE: 04May65/ ORIG REF: 015/ OTH REF: 007

Card 2/2

ACC NR: AP6029826 (N) SOURCE CODE: UR/0363/66/002/008/1505/1513

AUTHOR: Matveyev, M. A.; Pevzner, R. L.; Matveyev, G. M.; Kharitonov, F. Ya

ORG: Moscow Chemical Engineering Institute im. D. I. Mendeleyev (Moskovskiy khimiko-tekhnologicheskiy institut)

TITLE: Use of ceramic materials in a water vapor medium of high parameters

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 8, 1966, 1505-1513

TOPIC TAGS: ceramics, water vapor, corrosion resistance

ABSTRACT: The reactions of ceramic materials of various phase and chemical compositions with water and water vapor of high parameters were studied in tests lasting up to 1000 hr. An extensive attack of water-glass compositions, materials made of porcelain, steatite, forsterite and wollastonite was observed. The attack causes a decrease of density (an increase in water absorption and porosity) and strength as a result of the formation of hydrated ions of the corresponding metals and silicon-oxygen anions. Less subject to attack under these conditions are materials based on corundum and mullite. The experimental data were confirmed by thermodynamic calculations of the hydration of the tested materials involving the use of known values of the thermodynamic potential of the original silicates and hydrated cations and anions. Orig. art. has: 4 tables.

SUB CODE: 11/ SUBM DATE: 12Jun65/ ORIG REF: 015

UDC: 666.3:539.4

Card 1/1

MATVEYEV, G.N.

New forms of Iris camillae A.Grossh. Soob.AN Gruz.SSR 8 no.9, 10: 619-622. '47. (MIRA 9:7)

1.Akademiya nauk Gruzinskoy SSR, Botanicheskiy institut, Tbilisi. Predstavlena deystvitel'nym chlenom Akademii D.I.Sosnovskim.
(Iris (Plant))

AID P - 4595

Subject : USSR/Aeronautics - training

Card 1/1 Pub. 135 - 7/23

Author : Matveyev, G. P., Cpt., Pilot Class I

Title : Flying a jet bomber at night in a two-ship element

Periodical : Vest. vozd. flota, 3, 38-41, Mr 1956

Abstract : A detailed description of the training of pilots for night flying in formation is given. The article is of informative value.

Institution : None

Submitted : No date

MATVEYEV, G.V.

Loosening clay by blasting. Transp.stroi. 14 no.12:
27-28 D '64. (MIRA 19:1)

1. Glavnyy inzh. tresta Sevtransstrom.

MATVEYEV, Georgiy Vasil'yevich

MATVEYEV, Georgiy Vasil'yevich, inzh.; BRILLIANTOV, L.N., inzh., red.; GVIRS, V.L., tekhn.red.

[Making large brick blocks in building yards; the practice of the Tolmachi Brick Factory] Izgotovlenie krupnykh blokov iz kirpicha na poligone; opyt Tolmachevskogo kirpichnogo zavoda. Leningrad, Leningr.dom nauchno-tekhn.propagandy, 1957. 27 p. (Informatsionno-tekhnicheskii listok, nos.13/14. Stroitel'naia promyshlennost') (MIRA 11:1)

(Brickmaking) (Building blocks)

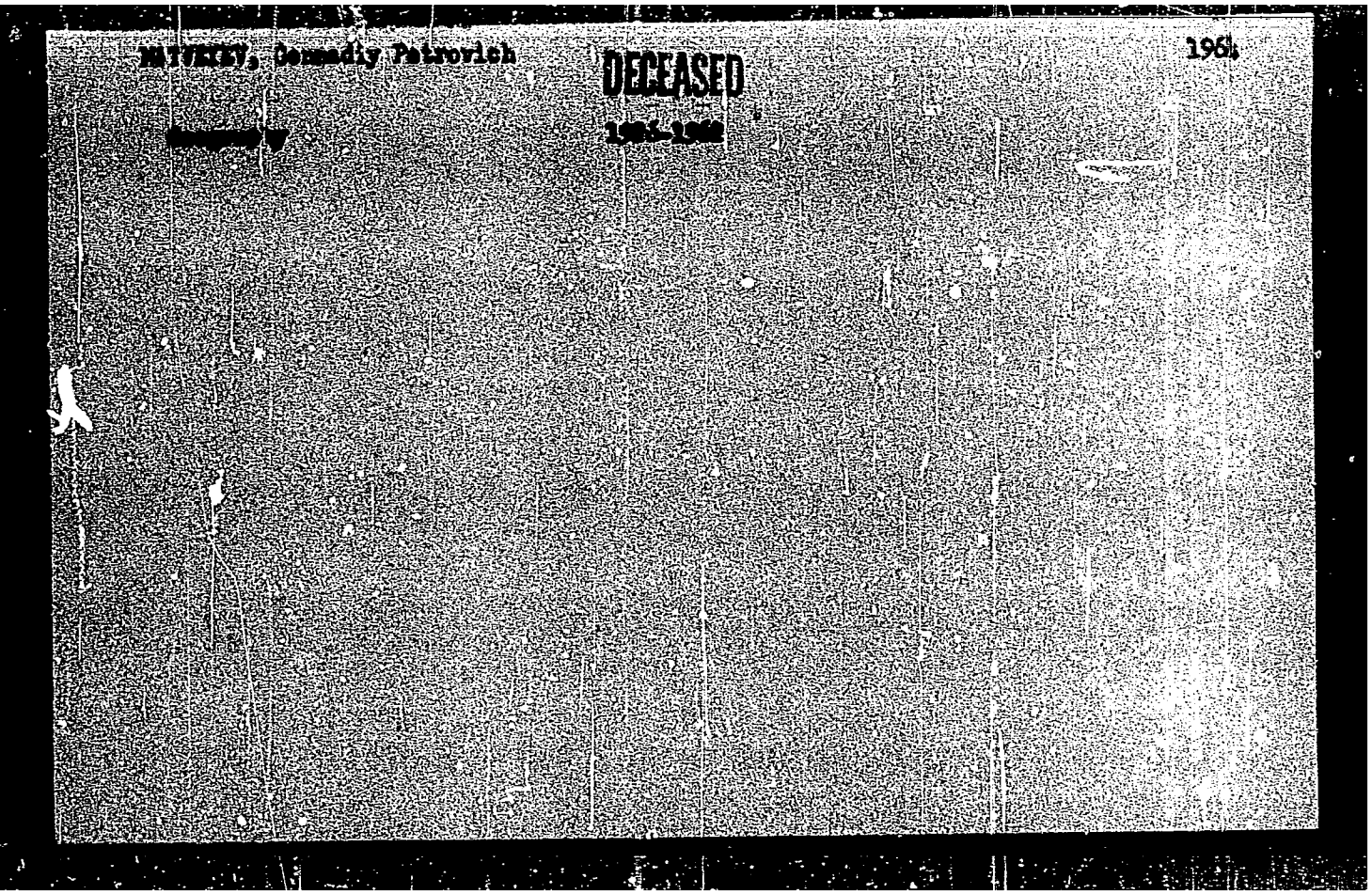
MATVEYEV, Georgiy Vasil'yevich, inzh.; IVANOV-SKOBLIKOV, P.V., inzh., red.; GVIRTS, V.L., tekhn.red.

[Using blasting methods in ripping clays] Rykhlenie glin vzryvnym sposobom. Leningrad, 1959. 22 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Stroitel'naia promyshlennost', vyp.21). (MIRA 13:4)
(Blasting) (Clay)

MATVEYEV, G.V.

Device for reducing vibration. Transp. stroi. 14 no.7:56 Jl '64.
(MIRA 18:1)

1. Glavnyy inzh. tresta Sevtransatrom.



GLAZACHEV, B.; MATVEYEV, I.

Mechanized station. Zashch. rast. ot vred. i bol. 10 no.3:31 '65.
(MIRA 19:1)

1. Zaveduyushchiy otdelom vnedreniya peredovogo opyta Ukrainskoy opytnoy stantsii tsvetochnykh i dekorativnykh rasteniy (for Glazachev). 2. Direktor Kiyevskoy stantsii zashchity zelenykh nasazhdeniy (for Matveyev).

MATVEYEV, I.A.

Use of skim milk with the addition of biomycin. Veterinariia 41 no.4:69-70 Ap '65. (MIRA 18:6)

1. Zaveduyushchiy Uryupinskoy veterinarnoy laboratoriyey Volgogradskoy oblasti.

1. MATVEYEV, I.B., YAGUPOV, V.A.

*2. USSR (600)

4. Grinding and Polishing

7. Selection of smoothness in the reverse motion of grinders. Stan.i instr. 23 no. 10, 52

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

SOV/191-58-10-5/25

AUTHOR: [redacted] I.B.
Shchetinin, T.A.

TITLE: The Choice of the Crank Shaft Speed of Plunger Pumps (Vybor chisla oborotov kolenchatogo vala krivoshipno-plunzhernykh nasosov)

PERIODICAL: Stanki i Instrument, 1958, Nr 10, pp 17-19 (USSR)

ABSTRACT: In crank-driven plunger pumps of a given pressure and delivery there is a speed of rotation which yields the minimum sum of pressure and inertia forces in the crank mechanism. A formula (equation 10) is given for the optimum rpm in terms of the number of cylinders, the pump delivery, the bore to stroke ratio and a factor expressing the mass of the moving parts. This optimum rpm is independent of pressure and is proportional to the fifth root of the number of cylinders and inversely proportional to the fifth root of the delivery. The best bore to stroke ratios are in the range of 0.8 - 1.5 increasing with pressure and delivery. The optimum rpm is much higher than in

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The Choice of the Crank Shaft Speed of Plunger Pumps

standard Soviet Pump designs. A new pump designed and tested by ENIKMASh for a pressure of 200 kg/cm^2 and a delivery of 100 l/min, compared with a standard unit (model GB-354) for the same duty, has six cylinders instead of three, 1460 rpm instead of 340, a stroke of 28 mm instead of 18, a bore of 25 mm instead of 14 and weighs 300 kg instead of 1860. Both are driven by 40 hp. There are 2 illustrations including 1 graph, 1 photo and 2 tables.

Matveyev I. B.

PHASE I BOOK EXPLOITATION SOV/3718

Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya

Issledovaniya i raschety mashin kuznechno-shtampovochnogo proizvodstva (Studies and Calculations of Forging and Stamping Machinery) Moscow, Mashgiz, 1959. [illegible] p. (Series: Its: Sbornik, kniga 1) Errata slip inserted. 6,000 copies printed.

Sponsoring Agency: USSR. Gosudarstvennyy komitet po avtomatizatsii i mashinostroyeniyu.

Ed.: A. I. Zet'yev, Candidate of Technical Sciences; Ed. of Publishing House: [illegible]; Tech. Ed.: T. F. Sokolova; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer; Editorial Board: G.P. [illegible], Engineer; V. P. Vyatkin, Candidate of Technical Sciences; [illegible] Vasil'yev, Engineer; A. F. [illegible], Engineer; I. B. Matveyev, Candidate of Technical Sciences; M. A. Mar'yanchik, Engineer; P. V. Novichkov, Engineer; [illegible], Engineer; S. A. Fedres, Engineer; L. V. [illegible]; V. [illegible]; P. B. [illegible], Candidate of Technical Sciences; and A. I. Zet'yev.

PURPOSE: The book is intended for technical personnel and scientific workers in the metal-forming industry.

COVERAGE: This collection of 12 articles deals with current research on metal-forming operations, the design and operation of press-forging machinery, and stress and force analyses in punching and blanking operations. No personalities are mentioned. References follow each article.

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ZOT'YEV, A.I., kand.tekhn.nauk, red.; BOL'SHAKOV, G.P., inzh., red.; VYATKIN, V.P., kand.tekhn.nauk, red.; VASIL'YEV, N.N., inzh., red.; YERMOKIN, A. P., inzh., red.; IVAKIN, I.Ya., inzh., red.; MATVEYEV, I.B., kand.tekhn. nauk, red.; MAR'YANCHIK, M.A., inzh., red.; NOVICHKOV, P.V., inzh., red.; PEREVOZCHIKOV, B.S., inzh., red.; PODREZ, S.A., inzh., red.; RUBINENKOVA, L.V., red.; UKHANOV, V.N., red.; CHUDAKOV, P.D., kand.tekhn.nauk, red.; STEPANCHENKO, N.S., red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Investigation and design of drop forging and die stamping machinery] Issledovaniia i raschety mashin kuznechno-shtampovochnogo proizvodstva. Pod red. A.I.Zot'eva. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Vol.1. 1959. 233 p. (MIRA 13:4)

1. Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya.
(Forging machinery)

MATVEYEV, I.B.; SHCHETININ, T.A.

Reducing the weight of crank plunger-pumps. Kuz.-shtam. proizv. 1 no.8:21-24 Ag '59. (MIRA 12:12)
(Forging machinery--Hydraulic drive)

ACCESSION NR: AP4041635 S/0182/64/000/006/0024/0026

AUTHOR: Matveyev, I. B., Kopy*tin, A. M.

TITLE: Hammers with hydraulic drives and selection of their control systems

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 6, 1964, 24-26

TOPIC TAGS: hydraulic hammer, steam air hammer, hydraulic hammer control system, hydraulic hammer design, hydraulic hammer efficiency, hammer operation economy, hammer performance characteristic

ABSTRACT: The authors designed a new control system facilitating the use of individual hydraulic drives for hammers and satisfying the requirements for continously variable stroke length in operation, rapid reversing (0.01 - 0.03 sec.) without the use of mechanical systems fastened to the hammer, as well as accumulation of high energy (10^3 or 10^4 kgm) and its release within a few hundredths of a second. Utilizing a relatively small volume of compressible liquid as an accumulator and a system of rapid action valves, they built a prototype with a maximum impact energy of 100 kgm and a hammer unit weighing 32 kg.

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ACCESSION NR: AP4041635

capable of 300 double strokes per minute and developing impact energies of 70 kgm for a height of 175 mm (i.e., ratio of acceleration of g = 12 to 14). Tests of the prototype indicate high efficiency (0.6) and the feasibility of using the proposed system for hydraulic hammers. Pressure in the accumulator should be 600–700 kg/cm^2 and the unit should be separated from the overall pressure network (100–150 kg/cm^2). Calculations of operating economy, based on consumption of electricity to operate the M-211 unit (max. impact energy 3500 kgm, hammer unit 1000 kg) for 5960 hrs. per year, indicate annual savings of 322,000 rubles for 100 hammers (0.012 rubles per kwh; 22 kwh required for proposed system as compared to 67 kwh for present compressed air requirement of 670 $m^3/hr.$), and suggest the advisability of modifying present steam-air hammers to hydraulic operation. Orig. art. has: 2 diagrams and 4 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: IE

NO REF SOV: 002

OTHER: 000

2/2
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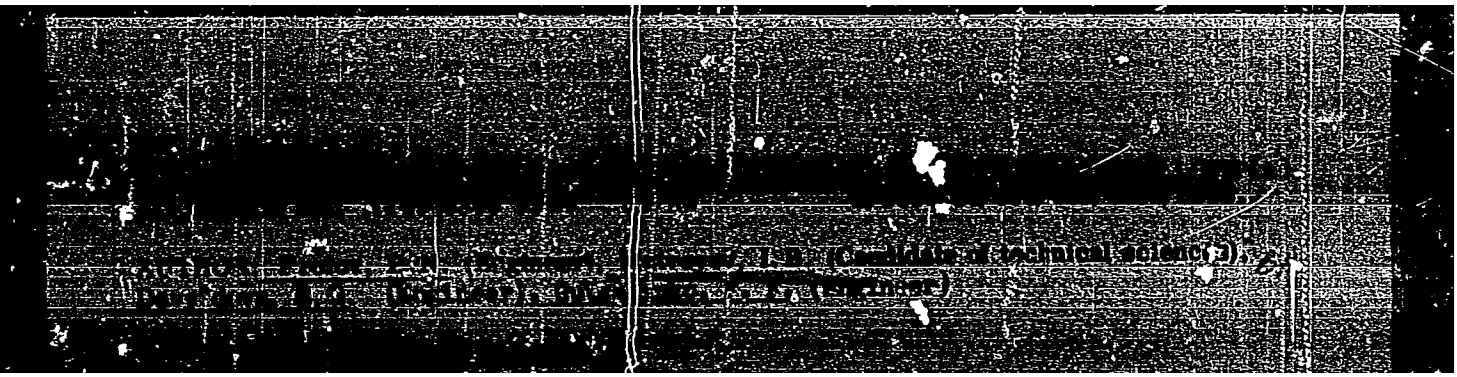

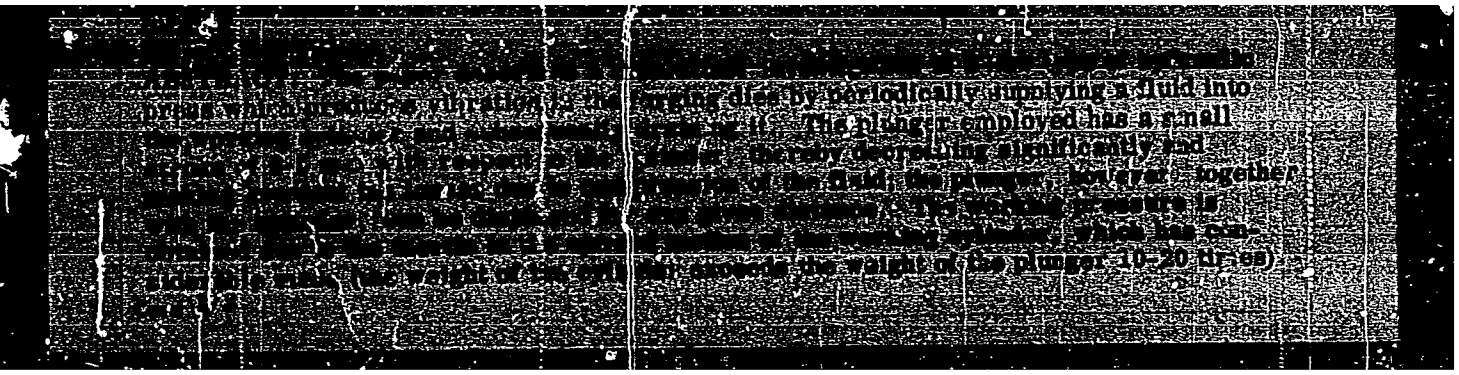

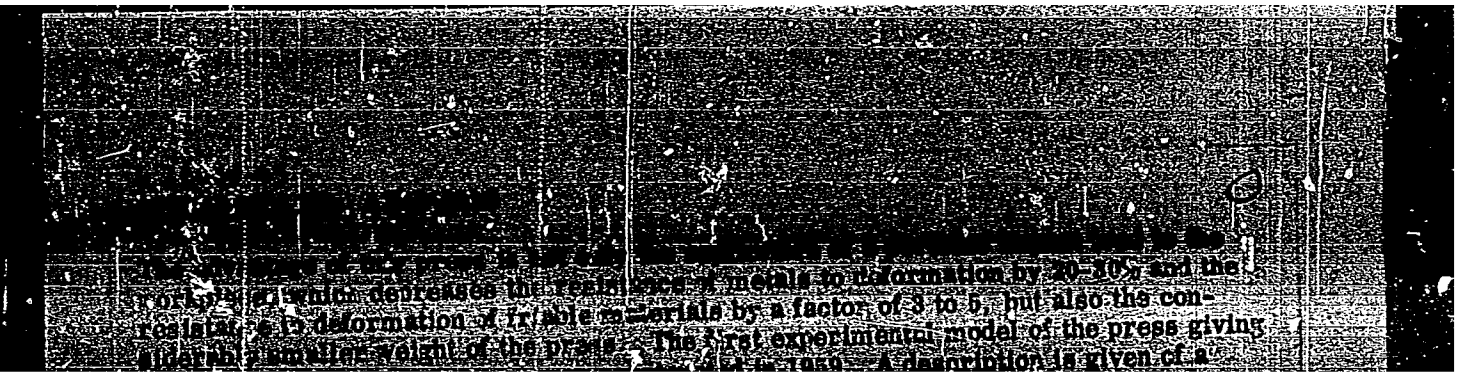

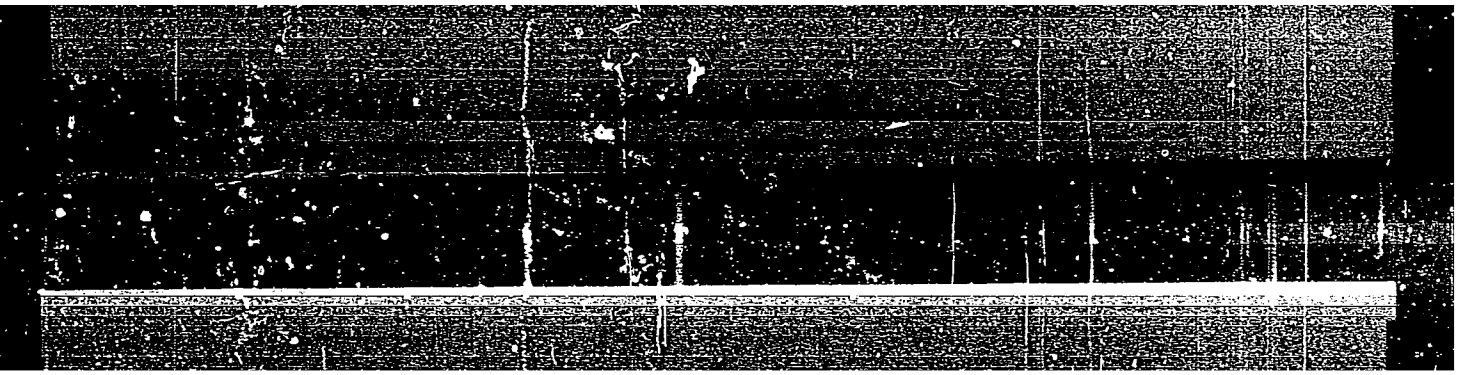

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