

BELINA, T.N.

USSR/Physical Chemistry - Electrochemistry.

B-12

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7314.

Author : T.N. Belina, A.I. Krasil'shchikov.  
Inst : State Scientific Research and Planning Institute of Nitrogen Industry.  
Title : Electrochemical Processes of Oxidation under Pressure.

Orig Pub: Tr. Gos. n.-i. i proyekrn. in-ta azotn. prom-sti, 1956, vyp. 5, 356-363.

Abstract: To continue the work (RZhKhim, 1955, 31327), the anode behavior of smooth and platinized Pt and Ni in 1 n. KOH at 20° and various polarizations and pressures P of H<sub>2</sub> was investigated. It is shown that the dependence between the anode current density  $i$  and the potential  $\varphi$  remains lineal up to (+20) to (+30) mv (compared with n.v.e. [hydrogen saturated electrode? See abstract No. 7302.] ) in the case of ordinary Pt and up to 0.2 v in the case of Pt, which has been preli-

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USSR/Physical Chemistry - Electrochemistry.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320009-1"

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7314.

minarily oxidized as anode. In the case of Ni, the rectilinear branch of the curve ( $i, \varphi$ ) covers the region of the anode polarization and the start of the cathode polarization at P up to 100 atm. At P greater than 120 atm and starting from +0.18 to +0.20 v,  $\varphi$  is shifted at a constant  $i$  to the magnitude of +0.42 v, at which the phase oxidation of the electrode takes place. An assumption of a mutual oxygen and hydrogen influence at their joint adsorption is expressed. The strength of the surface oxides rises with the increase of P of H<sub>2</sub>, and the presence of solute oxygen facilitates the adsorption of H atoms forming on the cathode.

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ZIOLKOWSKI, Zdzislaw; BELINA-FREUNDLICH, Danuta

Announcement. Chemia stosow 6 no. 4:615-616 '62.

1. Katedra Inzynierii Chemicznej, Politechnika, W<sup>o</sup>rickaw, X

ANDRYUSHCHENKO, Yu.S., BAGIN, Yu.I., BASHKIRTSEV, A.A., BELEN'KOV, G.Ye.  
BELINICHER, I.Sh., BUSHUYEV, N.M., VAGANOV, A.K., GASHEV, A.M.,  
YES'KOV, K.A., ZGIRSKIY, Ch.I., IGHAT'YEV, M.I., KORUSHKIN, Ye.M.  
KUZ'MOV, N.T., PATSEVICH, I.P., PICHAK, P.I., RAYTSES, V.B.,  
RUDAKOV, A.S., SAPRYKIN, V.M., SIDOROV, F.F., UMINSKIY, Ye.A.  
KHANZHIN, P.K., CHEREMOVSKIY, Yu.I., BUSHUYEV, N.M., kand.tekhn.  
nauk, red.; DUGINA, N.A., tekhn.red.

[Manual for agricultural machinery operators] Pt. 3. Stationary  
internal combustion engines, steam engines and windmills. Rural  
electrification. Mechanization of production in animal husbandry.  
Spravochnik mekhanizatora sel'skogo khoziaistva. Pt. 3. Statsionarnye  
dvigateli vnutrennego sgoraniia, lokomobili i vetrodvigateli.  
Elektrifikatsia sel'skogo khoziaistva. Mekhanizatsia proizvodstvennykh  
protsessov v zhivotnovodstve. Pod red. N.M. Bushueva. Moskva,  
Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry. 1957. 200 p.  
(MIRA 11:9)

(Agricultural machinery)

ANDRYUSHCHENKO, Yu.S.; BAGIN, Yu.I.; BASHKIRTSEV, A.A.; BELIN'KOV, G.Ye.;  
BELINICHENKO, I.Sh.; BUSHUYEV, N.M.; VAGANOV, A.K.; GASHEV, A.M.;  
YES'KOV, K.A.; ZGIBSKIY, Ch.I.; IGANT'YEV, M.I.; KORUSHEV, Ye.N.;  
KUZ'MOV, N.T.; PATSKOVICH, I.R.; PICHAK, F.I.; PATSEV, V.B.;  
HUDAKOV, A.S.; SAPRYKIN, V.M.; SIDOROV, F.F.; UMINSKIY, Ye.A.;  
KHANZHIN, P.K.; CHEREMOVSKIY, Yu.I.; YERAKHTIN, D.D., kand. tekhn.  
nauk, retsenzent; MAKAROV, M.P., inzh., retsenzent; TORBYEV, Z.S.,  
kand. tekhn. nauk, retsenzent; POLEKANOVA, I.P., kand. tekhn. nauk,  
retsenzent; IGNAT'YEV, M.G., agronom, retsenzent; GUTMAN, I.M.,  
inzh., retsenzent; YERMAKOV, N.P., tekhn. red.; SARAFANNIKOVA, G.A.,  
tekhn. red.

[Reference manual for the agricultural machine operator] Spravochnik  
mekhanizatora sel'skogo khoziaistva. Pt.2. [Repair of tractors and  
agricultural machinery] Remont traktorov i sel'skokhoziaistvennykh  
mashin. Pod red. N.M. Bushueva. Moskva, Gos. nauchno-tekhn. izd-  
vo mashinostroit. lit-ry. 1957. 335 p. (MIRA 11:9)  
(Agricultural machinery--Maintenance and repair)

*BELINICHER, I.S.H.*

ANDRYUSHCHENKO, Yu.S.; BAGIN, Yu.I.; BASHKIRTSEV, A.A.; BRLEN'KOV, G.Ye.;  
BELINICHER, I.Sh.; BUSHUYEV, N.M.; VAGANOV, A.K.; GASHEV, A.M.;  
YES'KOV, K.A.; ZGIRSKIY, Ch.I.; IGNAT'YEV, M.I.; KORUSHKIN, Ye.N.;  
KUZ'MOV, N.T.; PATSKOVICH, I.R.; PICHAK, F.I.; RAYTSES, V.B.;  
RUDAKOV, A.S.; SAPRYKIN, V.M.; SIDOROV, F.F.; UMINSKIY, Ye.A.;  
KHANZHIN, P.K.; CHEREMOVSKIY, Yu.I.; YERAKHTIN, D.D., kand.tekhn.nauk;  
retsenzent; MAKAROV, M.P., insh., retsenzent; TORBEYEV, Z.S., kand.  
tekhn.nauk, retsenzent; POLKANOV, I.P., kand.tekhn.nauk, retsenzent;  
IGNAT'YEV, M.G., agronom, retsenzent; GUTMAN, I.M., inshener, retsenzent;  
SARAFANNIKOVA, G.A., tekhn.red.; YERMAKOV, N.P., tekhn.red.

[Manual for agricultural mechanizers] Spravochnik mekhanizatora  
sel'skogo khoziaistva. Moskva, Gos.nauchno-tekhn.isd-vo mashinostroit.  
lit-ry. Pt.1. [Tractors and automobiles, agricultural machinery and  
implements, and operation of machine and tractor yards] Traktory i  
avtomobili, sel'skokhoziaistvennyye mashiny i orudia, ekspluatatsiia  
mashinno-traktornogo parka. Pod. red.N.M.Bushueva. 1957. 462 p.  
(MIRA 10:12)

(Machine-tractor stations)

1-1100

26783  
S/121/61/000/008/004/006  
D041/D113

AUTHOR: Belinicher, I.Sh.

TITLE: New method for milling concave surfaces

PERIODICAL: Stanki i instrument, no. 8, 18-19

TEXT: The author described a new method for milling concave surfaces. It consists in milling the concave profile of work pieces using cutters with rectilinear cutting edges. Milling can be carried out in two ways: (1) On a vertical-milling machine using face cutters if the profile of the work piece is within that section of the ellipse limited by its major axis (Fig. 1). (2) On a universal horizontal-milling machine using angular cutters if the profile of the work piece is within that section of the ellipse limited by its minor axis (Fig. 2). The front angles were chosen according to formulas proposed by Professor M.N. Larin, i.e.  $23^{\circ}$  for 2X13 (2Kh13) steel; the rear angles were  $10-15^{\circ}$ . The new method has been introduced at the Sverdlovskiy turbomotornyy zavod (Sverdlovsk Turbo-Engine Plant). The efficiency of initial milling of blades was doubled. When milling the inner profile of the working-blades of the 20th stage of the turbine by means of

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S/121/61/000/008/004/006  
D041/D113

New method for milling concave surfaces

cutters with P18 (R18) steel knives, the allowance is removed in one pass instead of 4 rough passes as envisaged by former methods at  $v = 35.8$  m/min, a transverse adjustment  $t = 25$  mm, a longitudinal feed  $s = 52$  mm/min, and  $n = 71$  r.p.m. The new method has the following advantages: (1) Optimum values of the front and rear angles can be chosen. (2) A smoother surface is obtained. (3) No idle sliding of the mill's cutting edge occurs when using face and angular cutters. (4) The amount of cutters is reduced because one cutter can mill several profiles. (5) Hard-alloy cutters can be used. There are 5 figures.

Card 2/4

KOZIN, B.G.; TRET'YAKOV, V.B.; RABOTIN, A.N., inzh., retsenzent;  
BELINICHER, I.Sh., kand. tekhn. nauk, red.; GARANKINA,  
S.P., red.izd-va; DEMKINA, N.F., tekhn. red.

[Screw-thread machining; handbook] Rez'boobrabotka; spravochnik. Moskva, Mashgiz, 1963. 100 p. (MIRA 17:2)



BELEN, G.

"Typical designs for motion-picture theaters; seasonal motion-picture theaters"  
Kinoekhanik, no. 7, 1952

1. BELILIN, G.
2. USSR (600)
4. Moving-Picture Projection
7. Summer moving-picture locations with daylight film showings.  
Kinemekhanik. No.9, 1952

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

BELININ, G.

Planning and calculation of moving picture theater capacity. Kinomekhanik  
no.4:23-26 Ap '53. (MLRA 6:6)

(Moving picture theaters)

BELILIN, G.

Daytime moving-picture projection in classrooms. Kinomekhanik no.5:23-28  
My '53. (MLRa 6:6)

(Moving-picture projection)

CA

BELEN'KAYA, L. M.

PROCESSES AND PROPERTIES MOSES

11C

The effect of ethyl alcohol on the oxidation of sorbitol to sorbose in the synthesis of ascorbic acid. Z. G. Ruznitskaya and L. M. Belen'kaya (Microbiol. Lab., Leningrad State Univ.). *Microbiology (U.S.S.R.)* 14, No. 1, 50-5 (in English, 50) (1945). Addn. of alc. in amts. of 0.2-1.0% to *Acetobacter melanogenum*, cultured on yeast water and sorbitol, reduces the yield of sorbose. Alc. and sorbitol are oxidized simultaneously to AcOH. But while unutilized alc. is present, the oxidation of sorbitol is retarded. AcOH (0.3-0.5%) added to the culture instead of alc. has the same effect. To prevent this retardation in industrial conditions, it is advisable to sterilize the cuvettes with steam and not with alc. The sorbitol prep. used should be entirely alc.-free and well dried. F. Laurs

ALB-31A METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

FROM SOURCE

FROM SOURCE

FROM SOURCE

BASHNIN, L.N.; BELINKIN, A.A.; BUKANOV, V.A.; KAULIN, V.A.; ZOTIKOV, S.L.

New technology in the manufacture of tubular form components  
by means of high-frequency heating. Med.prom. 14 no.3:50-52  
Mr '60. (MIRA 13:6)

1. Mediko-instrumental'nyy zavod "Krasnogvardeyets".  
(MEDICAL INSTRUMENTS AND APPARATUS)

~~BELINKIN, A.A.;~~ BUKANOV, V.A.; ZOTIKOV, S.L.; KATULIN, V.A.; SHVACHKINA,

Substitution of plastic materials for metals. Med. prom. 15 no.1:  
54-55 Ja '61. (MIRA 14:1)

1. Leningradskiy ordena Lenina mediko-instrumental'nyy zavod  
"Krasnogvardeyets."  
(DRUG INDUSTRY)

BELINKIN, Arnold Abramovich; BASHNIN, Lev Nikolayevich; IL'IN, V.A.,  
red.; GRIGOR'YEVA, I.S., red. izd-va; BELOGUROVA, I.A.,  
tekhn. red.

[Mechanization of ornamental grinding and polishing operations]  
Mekhanizatsiia dekorativnykh shlifoval'no-poliroval'nykh rabot;  
opyt zavoda "Krasnogvardeets." Leningrad, 1962. 30 p.  
(MIRA 15:8)

(Grinding and polishing)



BELINKIY, A.A., inzh.

Standard planning in woodworking enterprises. Der.prom. 10 no.1:  
16 Ja '61. (MIRA 14:2)

1. Giprolostrans.  
(Woodworking industries) (Factories--Design and construction)

BELINSCHI, P.

Cutting of normal beechwood sleepers on vertical saw frames.

p. 505 (Industria Lemnului. Vol. 5, no. 12, Dec. 1956. Bucuresti, Rumania)

Monthly Index of East European Accessions (EEAI) IC. Vol. 7, no. 2,  
February 1958

BELINSCHI, P.

AGRICULTURE

PERIODICAL: REVISTA PADURILOR, Vol. 73, no. 10, Oct. 1958

BELINSCHI, P. Application of asymmetric simple models to mechanical production of sleepers. p. 608

Monthly List of East European Accessions (EEAI) LC Vol. 8, No 4  
April 1959, Unclass

BELINSKAYA, A.V.; BOGUSLAVSKAYA, S.A.; DUBIN, A.S.; PRUSSAK, O.V.;  
STARTSEV, V.I.; DAVIDOVICH, Ya.I., doktor yurid.nauk, red.;  
KHRUSTALEV, B.F., red.; SHILOV, L.A., red.; VODOLAGINA, S.D.,  
tekhn.red.

[Socialist competition in Leningrad enterprises during the  
years of the first five-year plan, 1928-1932] Sotsialisticheskoe  
sorevnovanie na predpriatiakh Leningrada v gody pervoi piati-  
letki, 1928-1932 gg.; sbornik dokumentov i materialov. Pod red.  
Ia.I.Davidovicha. Leningrad, Izd-vo Lening.univ., 1961. 343 p.  
(MIRA 14:4)

1. Leningrad. Gosudarstvennyy arkhiv Okt'yabr'skoy revolyutsii i  
sotsialisticheskogo stroitel'stva.

(Leningrad--Socialist competition)

BELINSKAYA, A. Ya

TITOVA, A. I.; DADASH'YAN, M. A.; BELINSKAYA, A. Ya

Investigation on the effectiveness of certain antibiotics  
and chemical preparations in diphtheria bacilli carriers.

Uchen. zapiski vtor. moskov. med. Inst. Stalina 1:231-237  
1951.

(CIML 21:3)

1. Assistant for Titova. 2. Faculty Children's Clinic (Director  
— Prof. D. D. Lebedev) and the Department of Children's Infec-  
tions (Head -- G. V. Vygodchikov), Moscow Municipal Institute  
of Epidemiology and Bacteriology.

BELINSKAYA, F.A.; MATEROVA, Ye.A.

Electrode properties of ion exchange membranes [with summary in  
English]. Vest. IGU 12 no.16:85-102 '57. (MIRA 10:11)  
(Electrodialysis) (Electrodes) (Ion exchange)

BELINSKAYA, F. A.: Master Chem Sci (diss) -- "The electrode properties of cationitic ion-exchange resins". Leningrad, 1958. 8 pp (Leningrad Order of Lenin State U im A. A. Zhdanov) 150 copies (KL, No 5, 1959, 144)

MAKROVA, Ye.A.; BILINSKAYA, F.A.

Electrochemical properties of ion exchange membranes. Vost. IGU 14  
no.22:112-120, 159. (MIRA 12:11)

(Ion exchange)

(Membranes (Chemistry))



MATEVSKAYA, Ye. A.; BELINSKAYA, F. A.

Electrode properties of ion exchange membranes. Usp.khim.  
30 no.7:914-931 JI '61. (MIRA 14:8)

1. Leningradskiy gosudarstvennyy universitet, kafedra  
fizicheskoy khimii.  
(Ion exchange) (Electromotive force)

MATEROVA, E. A. [Materova, Ye. A.]; BELINSKAIA, F. A. [Belinskaya, F. A.]

Electrode properties of the iron-exchanging membranes. Analele  
chimie 17 no.1:23-43 Ja-Mr '62.

ACCESSION NR: AT4042426

S/0000/63/000/000/0075/0081

AUTHOR: Materova, Ye. A., Belinskaya, F. A., Millitsina, E. A.

TITLE: Some of the electrochemical properties of ion exchange membranes

SOURCE: Respublikanskoye nauchno-tekhnicheskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962, Teoriya i praktika ionnogo obmena (Theory and practice of ion exchange); trudy\* soveshchaniya. Alma-Ata, Izd-vo An KazSSR, 1963, 75-81

TOPIC TAGS: ion exchange membrane, ion exchange resin, polymer film, electro-chemistry, membrane potential, resorcinol exchange resin, pH measurement, galvanic cell

ABSTRACT: The difference between the membrane potentials of various ion exchange diaphragms prepared from sulfocarboxyl resins, hydroxyl cation exchange resins, basic anion exchange resins and some inorganic ionites was investigated at the ion exchange laboratory of Leningrad University. The membranes were prepared in the form of small disks either by pressing a fine powder with polystyrene, polyethylene or polymethylmethacrylate as the binders, or by molding a binder with the dispersed powder of an exchange resin

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ACCESSION NR: AT4042426

from an organic solvent. Technical ion exchange membranes prepared in the laboratory of Ye. B. Trostyanskaya at MkhTI and at the NIIPM were also studied. The galvanic cells  $AG | AgCl, M^+Cl |$  ion exchange membrane  $| M^{++}Cl, AgCl | Ag$  and  $Ag | AgCl, M^+Cl |$  ion exchanges membrane  $| M^{++}Cl, sat'd: KCl, Hg_2Cl_2 | Hg$  were used to measure the membrane potentials in a variety of electrolytes. Despite a relatively low selectivity with respect to hydrogen ions, membrane electrodes were found to match the glass electrode in measuring pH in aggressive media. Thus, a resorcinol cation exchange resin was able to measure the pH of 0.015 - 19.7 N HF. The investigation of the chemical and electrochemical properties of ion-exchange materials. "Some of the experimental data were obtained by A. Zub, P. Skabichovskiy and T. I. Rozhanskaya." Orig. art. has: 6 figures, 1 table and 2 equations.

ASSOCIATION: Leningradskiy gosuniversitet im. A. A. Zhdanova (Leningrad State University)

SUBMITTED: 13Nov63

ENCL: 00

SUB CODE: MT

NO REF SOV: 007

OTHER: 000

Card 2/2

L 31992-65 EWT(m)/EWG(m)/T RWH/GS/RM

ACCESSION NR: AT5002306

S/0000/64/000/000/0198/0207

23  
20  
BT/

AUTHOR: Belinskaya, F. A., Materova, Ye. A., Zub, A. I.

TITLE: Membrane electrodes made of some inorganic cation exchange resins in solutions of monovalent electrolytes

SOURCE: AN SSSR. Institut fizicheskoy khimii. Issledovaniye svoystv ionobmennyykh materialov (Research on the properties of ion-exchange materials). Moscow, Izd-vo Nauka, 1964, 198-207

TOPIC TAGS: exchange resin, cation exchange resin, membrane electrode, electrode potential, electrolyte concentration, phosphomolybdate electrode, synthetic zeolite, glauconite, polystyrene, polymethacrylate, polyethylene

ABSTRACT: The authors studied the effect of the concentration of  $\text{NH}_4\text{Cl}$  (0.001-3 M),  $\text{KCl}$  (0.001-3 M),  $\text{NaCl}$  (0.001 - 3 M),  $\text{LiCl}$  (0.001 - 2 M), and  $\text{CsCl}$  (0.001 - 1 M) electrolytes and  $\text{NaCl}$  (0.001 - 1 M) -  $\text{KCl}$  (0.01 or 0.1 M),  $\text{NaCl}$  (0.001 - 1 M) -  $\text{LiCl}$  (0.01 or 0.1 M),  $\text{CsCl}$  (0.001 - 1 M) -  $\text{NaCl}$  (0.01 M),  $\text{NaCl}$  -  $\text{HCl}$ , and  $\text{NaCl}$  -  $\text{NaOH}$  binary electrolytes on the potential of membrane electrodes, using the ammonium salt of complex phosphomolybdic acid,  $(\text{NH}_4)_3[\text{PMo}_{12}\text{O}_{40}] \cdot \text{nH}_2\text{O}$ , synthetic NaA and NaX zeolites, and

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ACCESSION NR.: AT5002306

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glaucanite as the electrode membrane material. The 0.5 - 1.0 mm thick high quality electrode membranes were prepared by pressing mixtures of 40-80% of the inorganic ionites with polystyrene, polymethylacrylate or polyethylene as inactive binders at 150 kg/cm<sup>2</sup> and 130-180C. Galvanic cells of two types - Ag|AgCl, MeCl\*|membrane|MeCl\*\*, AgCl|Ag (\* indicates constant and \*\* indicates varying electrolyte concentration) and Ag|AgCl, MeCl\*|membrane|NaCl|KCl, Hg<sub>2</sub>Cl<sub>2</sub>|Hg - were used in the experiments and a glass electrode was used to determine the pH of the solutions. The results, presented in diagrams of potential vs pH, lg a<sub>+</sub>MeCl (mean activity of the chloride), and electrode material, are discussed. The behavior of the ion exchange resins as electrode membrane material was found to be similar to that of acid sulfo-resins and sodium-aluminosilicate glass. "The authors thank S. P. Zhdanov of the Institut khimii silikatov AN SSSR (Silicate chemistry Institute, AN SSSR), who provided the zeolite samples, and A. A. Belyustin who conducted the experiments with glass electrodes." Orig. art. has: 8 figures, 1 table and 4 formulas.

ASSOCIATION: None

SUBMITTED: 06Aug64

ENCL: 00

SUB CODE: GC, MT

NO REF SOV: 008

OTHER: 009

Card 2/2

221168

S/077/61/006/003/002/003

D045/D112

3,1230 (1106,1395,1062)

AUTHOR: Belinskaya, G.I.

TITLE: The quality of the image in high-speed time magnifying lenses

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 6, no.3, 1961, 213-219

TEXT: The author pictorially and theoretically describes the structure and principle of a light shutter used in high-speed time magnifying lenses and proposes a method of calculating the effect of the shift of the image relative to the film, its defocusing and diffraction caused by the light shutter on the quality of the image. Using this method, the function  $G(x)$  is taken as the distribution of light energy in the object studied with the aid of the given high-speed time magnifying lens. The function  $A(\xi)$  is the so-called function of the distribution of the optical system of the instrument, i.e. it describes the distribution of light energy in the image of a point or an infinitely narrow line.  $A(\xi)$  is determined by the aberrations and the size of the exit pupil of the optical system of the instrument, and also by the spectrum field of the light energy used. The distribution of light energy in the image can be described by the expression (Ref. 4: R.L. Lamberts, J. Opt. Soc. America, 1958, 48,490; Ref.5: A.T. Ashcheulov, Zh. Card 1/9

22868

S/077/61/006/003/002/003  
D045/D112

The quality of the image ....

nauchn. i prikl. fotogr. i kinematogr., 1959, 4, 465):  $E(x) = \int_{-\infty}^{\infty} G(x-\xi) A(\xi) d\xi. (1)$

where  $E(x)$  is considered in units of illumination. The effect of shifting the image relative to the photo film, which occurs according to the law  $\varphi(t)$ , where  $t$  is the time variable in exposing the film, is introduced in equation (1). The operation of the light shutter is accounted for by the function  $\theta(t)$ , which characterizes the transmittancy of light energy by the shutter at the given moment of time  $t$ . The quantity of light energy obtained during the exposure in any point of the image with the coordinate  $x$  is determined by the expression (2)

$$H(x) = \int_{t_1}^{t_2} \int_{-\infty}^{\infty} A(\xi) G[x - \xi + \varphi(t)] \theta(t) dt d\xi$$

where  $t_1$  = time of starting the exposure of the film;  $t_2$  = time of completing the exposure of the film. The illumination of the image during its exposure will be altered. Therefore, in order to evaluate the image obtained by full exposure, it is convenient to take the equivalent value of the function  $E(x)$  which corresponds to constant illumination during the entire exposure, but according to the accumulated quantity of light energy equal to expression (2). Then the equivalent value of the function  $E(x)$  is equal to:

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S/077/61/006/003/002/003  
D045/D112

The quality of image ....

$$E(x) = \frac{1}{\int_{t_1}^{t_2} \theta(t) dt} \iint_{t_1, -\infty}^{t_2, \infty} A(\xi) G[x - \xi \pm \varphi(t)] \theta(t) dt d\xi \quad (3)$$

The author states that, before turning from the optical image to that of the photographic image, it is necessary to know how the photographic material affects the quality of the image. As regards the image of the test object, the influence of the photo film is shown in the additional change in amplitude N (Ref.6: A.T. Ashcheulov, Zh. nauchn. i priklad. fotogr. i kinematogr., 1960, 5, 148; Ref.7: R.L. Lamberts, J. Opt. Soc. America, 1959, 49,425). At the present time there are no such data available for Soviet films so that for evaluating the quality of the photographic image, the approximate method proposed by A.I. Liber (Ref.8: Opt.-mekh. prom-st', 1958, No.5, 28) has to be used. This method includes the use of the so-called  $W_n$  curve (Fig.3). The given curve shows how many times the amplitude in the optical image of the test object (with fully opened shutter) can be decreased so that the lines of the given frequency would be still photographically distinguishable. The curve  $W_n$  is obtained by the formula

$$W_n = \frac{(1 + gv) v^2}{(1 - gv) v_0^2}, \quad (10)$$

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The quality of image ....

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D045/D112

where

$$g = \frac{v_p^2 - v_0^2}{(v_p^2 + v_0^2)v_0} \quad (11)$$

where  $V_p$  = the resolving power of the photo layer;  $V_0$  = photographic resolving power of the high-speed time magnifying lens investigated with the shutter fully opened. The point of intersection of the curve  $v/\bar{f}$  with the curve showing the variation  $\bar{f}$  in dependence on the frequency of the lines of the test object (for example, Fig.3. curve 1) determines the photographic resolving power of the instrument investigated;  $\bar{f}$  and  $\beta$  affect the variation of the cosine phase. These terms depend on the frequency of the lines. Therefore, the images of the lines of a test object of varying frequency will be variously shifted in comparison with corresponding lines of the same test object. Methods of calculating B (Ref.9: H.H. Hopkins, Proc. Roy. Soc., A, 1955, 231, 91), based on the application of Fourier's mathematical apparatus for different forms of pupils in instruments and taking into account diffraction and the amount of defocusing of the image, as well as means of calculating B and  $\bar{f}$  for aberration systems are already known. These methods include works (Ref.10: Kenrō Miyamoto, J. Opt. Soc. America, 1958, 48, 567) in which methods of considering several wave aberrations have been worked out. In Hopkin's work, formulas for calculating aberrations with the aid of geometrical

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The quality of the image ...

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S/077/61/006/003/002/003  
D045/D112

optics are given. To check this theory experimentally, calculations of the effect of image displacement, diffraction and defocussing on the quality of the image in the CK (SK) camera were conducted. The photographic resolving power of the SK camera in the center of the field of vision was determined by calculation. Circular and square-shaped pupils, of equal area, thus maintaining constant light power for the instrument, were also investigated (see Fig. 4). Disregarding aberrations, the quality of the image is determined by diffraction. In this connection, the function  $A(\xi)$  is symmetrical and  $\Phi = 0$  (Ref. 9).  $B$  was obtained according to Hopkin's formulas, which for the square pupil have the following form:

$$B_{\square} = \frac{\sin \left[ \left( 1 - \frac{\lambda v}{2 \sin \alpha} \right) \pi v \Delta \sin \alpha \right]}{\pi v \Delta \sin \alpha}, \quad (12)$$

where  $\Delta$  = the amount of defocusing of the image;  $\lambda$  = the wavelength of the light energy used (for the SK camera  $\lambda = 640$  nm);  $\alpha$  = half of the aperture angle. For  $\alpha \ll 5^\circ$ , formula (12) can be given in the following more compact

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The quality of the image...

form:

$$B_{\square} = \frac{\sin \left[ \pi v d \left( 1 - \frac{\lambda v}{2 \sin \alpha} \right) \right]}{\pi v d} \quad (13)$$

where  $d = \Delta \operatorname{tg} \alpha$ . The circular shape of the pupil changes to a segmental one during operation of the light shutter and the formula for calculating  $B_{\square}$  has the form

$$B_{\square} = \frac{1}{p \left[ 0,035 \arccos(1-k) - 2 \sqrt{1 - (1-k)^2(1-k)} \right]} \times$$

$$\times \left\{ \cos p \left[ 1 - \left( k - \frac{\lambda v}{2 \sin \alpha} \right) \right] \left[ \beta J_1(p) + \frac{1}{2} \sin 2\beta (I_1(p) - I_3(p)) - \right. \right.$$

$$\left. - \frac{1}{4} \sin 4\beta (I_3(p) - I_5(p)) + \dots \right] - \sin p \left[ 1 - \left( k - \frac{\lambda v}{2 \sin \alpha} \right) \right] \times$$

$$\times \left[ \sin \beta (I_0(p) - I_2(p)) - \frac{1}{3} \sin 3\beta (I_2(p) - I_4(p)) + \right.$$

$$\left. + \frac{1}{5} \sin 5\beta (I_4(p) - I_6(p)) - \dots \right] \quad (14)$$

where  $p = \pi v \Delta \sin \alpha$ ;  $\beta = \arccos \left[ 1 - \left( k - \frac{\lambda v}{2 \sin \alpha} \right) \right]$ ;

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The quality of the image ...

$J_n$  = Bessel's functions of the first order;  $k = \frac{2\psi_m}{\psi_0}$  — for the opening of the shutter;  $k = \left(1 - \frac{2\psi_m}{\psi_0}\right)z$  for the closing of the shutter;  $\psi_m$ , current deflection angle of the rotating mirror;  $\psi_0$  = full working angle of the rotating mirror;  $z$  = radius of the pupil ( $z = 1$ ). The results of calculations are shown in Fig. 3. Liber's method was again used in this case to determine the effect of the photographic resolving power on the shift, diffraction and defocusing. The author confesses, however, that additional experimental verification is still required. The author points out that Fourier's mathematical apparatus can only be reliably applied to autoluminescent objects and isoplanatic optical systems and that in equation (1) the scale of the image is not included, since this does not influence the law for the distribution of light energy. The following conclusions are drawn: A method has been given for determining the resolving power of high-speed time magnifying lenses whilst taking into consideration the shift of the image relative to the film, the diffraction, the defocusing and the aberrations; on the basis of the method presented, a calculation has been made for the SK camera, which showed that the diffraction and the Card 7/9

The quality of the image ...

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D045/D112

shift of the image relative to the film most strongly influences the resolving power; a method was found for determining the distribution of light energy in the image of the area of an object of any shape. There are 6 figures and 11 references: 6 Soviet and 5 non-Soviet references. The 5 English-language references are as follows: R.L. Lamberts, J. Opt. Soc. America, 1958, 48,490; R.L. Lamberts, J. Opt. Soc. America, 1959, 49,425; H.H. Hopkins, Proc. Roy. Soc., A, 1955, 231,91; Kenrō Miyamoto, J. Opt. Soc. America, 1958, 48,567; R.L. Lamberts, G.C. Higgins and R.N. Wolfe, J. Opt. Soc. America, 1958, 48,487.

ASSOCIATION: Institut Khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, Academy of Sciences USSR)

SUBMITTED: July 26, 1960

Card 8/9

BELINSKAYA, G.I.; MELOVATSKIY, B.V.

Use of the photometric method for determining the dimensions  
of photographic images. Zhur.nauch.i prikl.fot. i kin. 6 no.5:  
371-376 S-0 '61. (MIRA 14:9)

1. Institut khimicheskoy fiziki AN SSSR.  
(Photogrammetric pictures)

BELINSKAYA, G.I.; MOTOVA, M.S.

Reducing film shrinkage occurring in its photographic processing.  
Zhur.nauch,i prikl, fot.i kin. 6 no.6:448 N-D '61. (MIRA 15:1)

1. Institut khimicheskoy fiziki AN SSSR.  
(Photography--Films)



8/077/63/008/002/004/009  
A066/A126

AUTHORS: Belinskaya, G.I., Churbakov, A.I.

TITLE: Resolution of scanning systems

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematigrafii, v. 8, no. 2, 1963, 120 - 123

TEXT: Scanning systems (Fig. 1) consist essentially of a light source (6), a shutter (3) (scanning unit) with a narrow slit, an optical system (4), a scale (1) with alternating transparent and non-transparent elements, and a receiver (5). The image (2) of the slit appears on the scale. The shutter (3) and thus also the image of its slit are shifted relative to the optical axis by any effect under examination. As (5) is the cathode of a photoelectric device, the transparent parts of (1) give rise to current variations, which are recorded as scale readings. The variation in intensity of the light incident upon the photocathode is defined as the resolution of a scanning system. At a finite width of the scanning element, the ratio between the minimum and the maximum light current flowing to the photocathode is given by

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## Resolution of scanning systems

S/077/63/008/002/004/009  
A066/A126

$$K' = \frac{M - N \int_0^{\infty} E'(x) \cos 2\pi v x dx}{M + N \int_0^{\infty} E'(x) \cos 2\pi v x dx} \quad (6)$$

with

$$f = \int_0^{\infty} E'(x) \cos 2\pi v x dx, \quad (7)$$

where  $E'(x)$  is the distribution of luminous energy for a rectangular pupil of the eye,  $Q(u) = M + N \cos 2\pi v u$  is the cosine law, and  $v$  is the number of lines per mm of the scale. The latter may be regarded as an absolutely contrasted object. Then

$$K' = \frac{1 - f}{1 + f}. \quad (8)$$

A comparison with experimental results shows that the calculated values are higher by 30%. The difference is due to the insufficient accuracy of the measuring

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Resolution of scanning systems

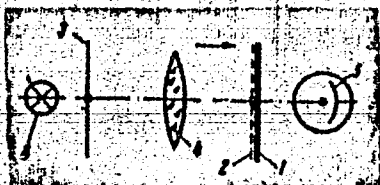
S/077/63/008/002/004/009  
A066/A126

Instrument. There are 4 figures.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics  
AS USSR)

SUBMITTED: January 31, 1962

Figure 1



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1395.1051, 1395

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S/077/61/006/005/004/004  
D051/D113

AUTHORS: Belinskaya, G.I., and Melovatskiy, B.V.

TITLE: Determining the size of photographic pictures by means of photometry

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 6, no. 5, 1961, 371-376

TEXT: Considering the inexactness of visual measurement of photographic pictures by microscopes, comparators etc., the authors developed a photometric method permitting a more accurate determination (approximately by 1 order) of the size of photographs of contrasty subjects. The method is based on the use of so-called  $\chi$ -curves which illustrate the change in blackening density in point O [Abstracter's note: for explanation see below]. This change depends on the blackening density of the photographic picture under the assumption of symmetry of the function of the optical system [A(x)]. Point O - in reality there are two points O which in the case of symmetry of the function have equal density levels - marks the intersection of

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Determining the size of photographic pictures ... D051/D113

the real and the ideal graph of blackening density distribution of a photographic picture. The ideal graph represents the blackening densities on the edge of a photographic picture, assuming that the subject contrasts and the blackening densities in the photograph correspond. Fig. 3 shows that, if the blackening densities at 0 are known, the real size of the photographic picture on the abscissa can be photometrically found. The  $\kappa$ -curves of Fig. 7, which show the dependence of the blackening density  $D_1$  at point 0 on the blackening density of the photographic picture D (Fig. 6) hold for pictures obtained on Kinonegativ  $\square$ , K (DK) films (curve 1) and Panchrom X-800 (Kh-800) (curve 2). The films were developed with developer No 1 during 8 minutes at 20°C, the exposure having been carried out behind a KC-14 (KS-14) red light filter. The data for plotting these curves were experimentally obtained with a special installation (diagram in Fig. 8) which is described in detail. The installation is a combination of an optical, a photographic recording, and a measuring system, all parts being aligned along the optical axis. The relative aperture of the optical system can have the values 1:33, 1:50, 1:120 in addition to those of the objective PO-2 (RO-2) when its internal iris diaphragm is stopped down. The interchangeable diaphragm (3) is recorded on the film (7). The size of the optical

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Determining the size of photographic pictures ... D051/D113

image of the diaphragm (3) in the plane of the film is measured with a microscope (10). The photographs of the diaphragm opening obtained were pictures with different blackening densities ( $D = 0.2-2.6$  above fog density) and of different size  $B$  ( $0.2-8$  mm [ $B$  - size of the diaphragm opening]). Blackening density  $D_1$  and size  $B$  were established using an  $M\phi -4$  (MF-4) microphotometer. It was found that the blackening density  $D_1$ , which corresponds to the real size of the picture, changes depending on the density of the photograph in accordance with the  $\chi$ -curves of Fig. 7. This law was verified for pictures  $0.2-8$  mm in size. Evidently, it will also hold for photographic pictures larger than  $8$  mm. The new method excludes errors arising from visual measurements due to unsharpness around the edges of the photographic picture. After microphotometrically determining the blackening density  $D$  of the photographic picture near the edge, the blackening density  $D_1$  through the corresponding  $\chi$ -curve will also be found. Then, using the measuring drum of the microphotometer, two consecutive readings will be made, corresponding to  $D_1$  on the edges of the picture. The difference between these readings is equal to the real size of the picture. There are 9 figures

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Determining the size of photographic pictures ... S/077/61/006/005/004/004  
D051/D113

and 2 references: 1 Soviet and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: R.L.Lamberts, G.C.Higgins, R.N.Wolfe, J.Opt.Soc.America, 1958, 48, 487.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the AS USSR) X

SUBMITTED: July 26, 1960

Card 4/6

BELINSKAYA, G. I.

"Evaluation Calculation Method of Quality of Image in High Speed  
Framing Cameras"

report presented at the 6th Intl. Cong. of High-Speed Photography,  
The Hague, 17-22 Sep '62



BELINSKAYA, G.I.

Calculating the resolving power of high-speed motion-picture  
cameras. Zhur.nauch.i prikl.fot.i kin. 8 no.1:42-47 Ja-Feb  
'63. (MIRA 16:2)

1. Institut khimicheskoy fiziki AN SSSR.  
(Motion-picture cameras)

BELINSKAYA, G. I.

Efficient exposure time for high-speed motion-picture cameras.  
Zhur.nauch. i prikl.fot. i kin. 8 no.5:370-374 S-0 '63.

(MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR.

BELINSKAYA, G.I.; GUS'KOVA, M.S.

Effect of exposure time on the sharpness of the photographic  
image. Zhur. nauch. i prikl. fot. i kin. 8 no.6:463-465  
N-D '63. (MIRA 17:1)

1. Institut khimicheskoy fiziki AN SSSR.

L 26929-65 FSS-2/EWI(1)/EWA(d)/T/EWA(c)/ESD(b)-3 Pse-2 IJP(c)

ACCESSION NR: AP5004208

S/0077/65/010/001/0010/0015

AUTHORS: Belinskaya, G. I., Gus'kova, M. S.

TITLE: Frequency-contrast characteristics of photographic emulsions for sinusoidal and rectangular distribution of light, and their variation as functions of the exposure time

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 10, no. 1, 1965, 10-15

TOPIC TAGS: photographic emulsion, photographic image theory/  
Pakhrom 10, Kinonegativ NZ, Kinonegativ 1

ABSTRACT: An installation is described, constructed at the Institut fiziki Zemli (Institute of Earth Physics) AN SSSR, in which frequency-contrast characteristics of several Soviet photographic films were obtained by the use of the Fourier method. A schematic diagram of the installation is shown in Fig. 1 of the enclosure. Its essential

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part is a special adapter for reproducing an image with sinusoidal light distribution (light modulator). The apparatus was used to expose the films Pankhrom-10, Kinonegativ-NZ, and Kinonegativ-1. The densities of the photographic images of the sinusoidal test object and of the comparison wedges were measured with an MF-4 microphotometer, in which the photocell was replaced by a photomultiplier to increase sensitivity. The effective slit of the microphotometer was 1.5  $\mu$  wide, and 0.3 mm long. The frequency-contrast characteristics of the apparatus were determined experimentally using the system of P. Lindberg (Optica Acta, 1954, v. 1, 60). The frequency-contrast characteristics were also obtained by the NIKFI photographic diffusometry method, using a rectangular test object. Both methods gave good agreement within 10--15%. The method of sinusoidal light distribution was developed by L. O. Hendberg (Arkiv Fys. 1960, v. 16, 417). It was found in connection with the NIKFI method that a reduction in the exposure time from  $6 \times 10^{-2}$  to  $1 \times 10^{-5}$  sec improves the frequency-contrast characteristics of films and accordingly increases

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the sharpness of the photographic image. This result was obtained earlier by the authors (Zh. nauchn. i prikl. fotogr. i kinematogr. 1963, v. 8, no. 6, 463). "The authors thank Doctor of Technical Sciences A. S. Dubovik and Doctor of Technical Sciences Professor G. A. Istomin for their interest in the work and for valuable advice." Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Institut fiziki Zemli AN SSSR (Institute of Earth Physics, AN SSSR)

SUBMITTED: 17Jan64

ENCL: 01

SUB CODE: ES, OP

NR REF SOV: 005

OTHER: 002

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L 26929-65  
ACCESSION NR: AP5004208

D  
ENCLOSURE:01

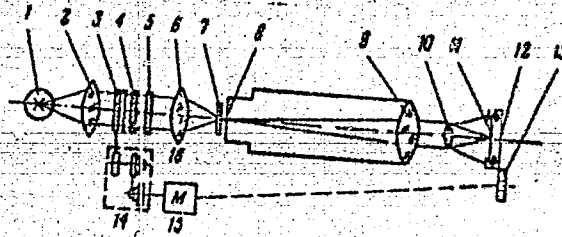


Fig. 1. Diagram of set-up for the determination of the frequency-contrast characteristic using a sinusoidal test object.

- 1 - Ribbon-filament lamp, 2, 6 - condenser, 3,4,5- polaroid,
- 7 - neutral attenuator, 8 - slit, 9 - collimator, 10 - lens,
- 11 - tested photographic material, 12 - carriage, 13 - gear,
- 14 - gear box, 15 - motor

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BELINSKAYA, G.I.; GUS'KOVA, M.S.

Frequency contrast characteristics of photographic layers in sinusoidal and right-angle light distribution and their variation dependent on the exposure time. Zhur. nauch. i prikl. fot. i kin. 10 no.1:10-15 Ja-F '65. (MIRA 18:4)

1. Institut fiziki Zooli AN SSSR.



L 16836-63 EPP(n)-2/EWP(q)/EWT(m)/BDS/T-2/ES(v)/ES(w)-2 AFFIC/  
ASD/SSD Pu-4/Pe-4/Pab-4 WH  
ACCESSION NR: AP3003260 S/0286/63/000/003/0027/0027

AUTHOR: Zarina, N. A.; Polyakov, I. I.; Peshkov, I. B.; Belinskaya, G. V. 76

TITLE: Refractory mineral insulation for electric wires. Class H Q1b; 21c,  
3 sub 01. No. 152900 6

SOURCE: Byul. izobreteniy i tovarnykh znakov, no. 3, 1963, 27

TOPIC TAGS: wire insulation, mineral, refractory, silicone

ASSTRACT: Refractory mineral insulation for electric wires, intended to operate at temperatures from 250 to 550°, and deposited on the wire in the form of a suspension by the method of dipping or electrophoresis with subsequent heat treatment and impregnation with silicone laquer; its distinguishing feature is that the suspension contains the following (parts by weight):

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ACCESSION NR: AP3003260

|                         |          |
|-------------------------|----------|
| Onotskiy talcum --      | 55-60    |
| Muscovite mica --       | 12--15   |
| Chasov-Yar type clay -- | 4--5     |
| Liquid glass --         | 3--4     |
| Low melting flux --     | 15--20   |
| Polyvinyl spirits --    | 0.2--0.3 |

[Abstracter's note: complete translation]. Orig. art. has: no figures, tables, or formulas.

ASSOCIATION: none

SUBMITTED: 20Nov61

DATE ACQ: 23Jul63

ENCL: 00

SUB CODE: MA

NO REF SOV: 000

OTHER: 000

Card 2/2

37774

S/661/61/000/00./066/081  
D243/D302

9,2410 (3705,5003)

AUTHORS: Kharitonov, N. P., Belinskaya, G. V. and Dolgov, B. N.

TITLE: Waterproof thermo-electrical insulation materials on a silico-organic base. PT type tropic wire resistances having protective covering on a base of silico-organic compounds

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniy; trudy konferentsii, no. 6: Doklady, diskussii, resheniye. II Vses. konfer. po khimii i prakt. prim. kremneorg. soyed., Len. 1958. Leningrad, Izd-vo AN SSSR, 1961, 288-293

TEXT: The authors carried out a series of tests which reveal new properties of the materials. Metal discs, 50 and 105 mm in diameter were covered with heat-stable masses and the insulation resistance and resistance to frost determined over the range -60 to +600°C. The insulation resistance was measured at 50, 100, 150, 450 and 600°C (3 hours at each temperature). After the tests it remained

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Waterproof thermo-electrical ...

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above  $10^{10}$  ohm/cm. After remaining in a moisture chamber for 3000 hours, it was above  $10^{13}$  ohm/cm. Resistance to frost was measured in a cold chamber at  $-60^{\circ}\text{C}$  for 15 - 30 days. Adhesion properties of the sealing mass were retained over the whole temperature range. Further experiments were carried out with metal plates covered with a layer of material 0.2 - 0.5 mm thick. No faults appeared after flexure and quenching from  $450^{\circ}$  to  $20^{\circ}\text{C}$ , and the isolation resistance was afterwards  $10^{14}$  ohm/cm, the samples successfully withstanding 200 V with a.c. The improvement in parameters and reliability of resistances protected by 0.2 - 0.3 mm layers of the studied materials was confirmed by subsequent tests of a similar type. In the discussion which followed further details were elucidated of the properties and polymerization of the substances. A. A. Tambotsev, Institut mekhaniki AN SSSR, Moskva (Institute of Mechanics, AS USSR, Moscow) gave an account of materials developed in his Institute for tensometry, and V. M. Bzhezanskiy, NII Asbestotsement, Leningrad (NII Asbestos Cement, Leningrad) spoke of the properties

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Water-proof thermo-electrical ...

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of some mica derivatives developed for insulation purposes. Other persons named in the discussion are V. I. Pakhomov (NIIPM, Moscow), N. N. Sokolov (VEI, Moscow), M. V. Sobolevskiy (Moscow) and I. A. Zubkov (Moscow).

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR, Leningrad (Institute of Silicate Chemistry, Academy of Sciences USSR, Leningrad); Gosudarstvennyy issledovatel'skiy elektrokeramicheskiy institut, Moskva (State Research Institute for Electroceramics, Moscow)

4

Card 3/3

L 31043-66 EMP(a)/EWP(m)/EMP(j)/T/EWP(t)/EWP(k)/EWP(b)/ETC(m)-6 IJP(o)  
ACC NR: AT5027951 JD/WW/GS/RM/WH SOURCE CODE: UR/0000/65/000/000/0156/0161

AUTHOR: Belinskaya, G. V.; Pashkov, I. B.; Khraritonov, N. P.

ORG: none

TITLE: Heat resistant coil wire with light insulation

SOURCE: Seminar po zharostoykim pokrytuyam. Leningrad, 1964. Zharostoykiye pokrytiya (Heat-resistant coatings); trudy seminara. Leningrad, Izd-vo Nauka, 1965, 156-161

TOPIC TAGS: wire, heat resistance, heat insulation, silicon compound, *electric insulation, insulated wire, copper, nickel, enamel, high temperature coating, elasticity, electric property*  
ABSTRACT: Increases in the operational temperatures of a number of tools and apparatus promoted research into developing coil wires capable of performing satisfactorily at 500C and higher. The problem was twofold: (1) selection of the conductor core and (2) development of electrical insulating coatings which can assure reliable performance of the coil wire at high temperatures. Nickel-plated copper wire was used for coil wires performing at 400-500C and nickel wire for 500-600C. The development of insulating coating was based on some mineral compounds and fusible glass (silicate) enamels. The fusible silicate enamels contained

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35  
33  
B+

L 31043-66

ACC NR: AT5027951

large amounts of fluxes, often including alkalis. The electrical conductivity of many glasses had an ionic character and increased with increased amounts of mobile ions, in particular of alkalis. For a silicate enamel free of alkali oxides, M-33 enamel [Abstractor's note: composition not given] was developed within the  $\text{SiO}_2\text{-PbO-B}_2\text{O}_3$  system. It was applied from aqueous suspension by immersion or by electrophoresis, and the coating was fixed on the wire at 850C. The thermal expansion coefficient of this type of enamel (at 20-500C) was  $9.8 \times 10^{-6}$ , the volumetric resistivity  $\sim 10^{16}$  ohm cm at room temperature, and  $10^8$  at 500C; the breakdown voltage of the insulation at a thickness of 7-10  $\mu$  in coils was 380 v. at 20-500C. The wire could be wound on a magnetic core having a diameter 50 to 60 times larger than that of the coil wire. Coating with organosilicate preparations Ts-5, V-58, or S-2 of the silicate enamel coating M-33 improved the elasticity and electric properties of the coil wire. Coil wire with a thickness of 25  $\mu$  by diameter could be wound on a magnetic core having a diameter 15 times larger than that of the coil wire. Its breakdown voltage in the coil was 400-450 v. It decreased to 250 v after 800 hours at 500C. The elasticity decreased simultaneously. The coil wire could then be wound on a magnetic core with a diameter 25 times larger than that of the coil wire. Heating to 600C sharply decreased the elastic properties of the insulation. This coil wire was designated as PEZbB (proved

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emalirovannyi sharostoykiy bimetallicheskiy, i.e. bimetallic enamel-coated heat-resisting wire) It has a diameter of 0.2 to 0.8 mm, and is recommended for prolonged work at 4000 and for 2000 hours at 5000. Orig. art. has: 6 figures.

SUB CODE: 11/ SUBM DATE: 20Jul65/

3/3 LC



*BELINSKAYA, G.V.*

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, 112-1-129  
Nr 1, p. 17 (USSR)

AUTHORS: Avetikov, V.G., Belinskaya, G.V., Zin'ko, E.I.

TITLE: Examination of Properties of Steatitic Plastic Materials for the Production of Insulators (Issledovaniye svoystv plastichnykh steatitovykh mass dlya proizvodstva izolyatorov)

PERIODICAL: Tr.Gos. issled. elektrokeram. in-ta, 1956, Nr. 1, pp.92-108.

ABSTRACT: Steatit (C) represents a talc-containing ceramic with clinoenstatite crystallization possessing small dielectric losses and increased mechanical strength; it is used mostly for the production of small-size adjusting parts and of large antenna insulators of various profiles.

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112-1-129

Examination of Properties of Steatitic Plastic Materials (Cont.)

The influence of crude and burnt talc and of clayey components upon the processing properties of C plastic materials was examined, and also the dependence of the properties of C on the contents of clay and of bentonite, MgO, CaCO<sub>3</sub>, SrCO<sub>3</sub>, BaCO<sub>3</sub>, and admixtures of SiO<sub>2</sub>. Experimental batches were prepared by simultaneous mixing and grinding in the presence of water of all the components of the mixture in the C-ball mill with the use of C-balls. Samples and testing procedure conformed with GOST 5458-50. The increase of the contents of MgO in the composition of C-masses leads to a lowering of Tg<sub>d</sub>. The most efficient way of adding MgO appeared to be the introduction of a specially prepared bake of talc and MgO. The increase in the composition of the glass of oxides of Ca, Sr, and Ba caused an increase of the light

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112-1-129  
Examination of Properties of Steatitic Plastic Materials (Cont.)

refraction of the glass and a lowering of the  $tg\delta$ . Thus the increase in the vitreous phase of C of the ratio  $MeO:SiO_2$  in all the examined cases causes a lowering of  $tg\delta$ . The basic role in changing the  $tg\delta$  is played by the composition of the vitreous phase and not by its quantity. The quantity of the vitreous phase is determined by the initial composition of the mass and the kilning temperature of C. The compositions developed of plastic C-materials, which answer the requirements of ГОСТ 5458-50, class IV, group "a" and "b", and the industrial processes of production from them of high-voltage and HF-insulators were turned over to the industry.

Bibliography: 5 titles.

Card 3/3

M.D.M.

AVETIKOV, V.G., kand.tekhn.nauk; BELINSKAYA, G.V., kand.tekhn.nauk;  
ZIN'KO, E.I., kand.tekhn.nauk

Properties of talcs used in the ceramic industry of the U.S.S.R.  
Trudy GIEKI no.2:71-82 '57. (MIRA 11:7)  
(Talc) (Ceramic industries)

SOV/105-58-7-15/32

AUTHORS: 1) Dolgov, B. N., Doctor of Chemical Sciences  
Kharitonov, N. P., Candidate of Chemical Sciences  
2) Belinskaya, G. V., Candidate of Technical Sciences  
Avetikov, V. G., Candidate of Technical Sciences

TITLE: Constant Wire-Wound Resistances PT for Operation in Tropical  
Climates (Provolochnyye postoyannyye soprotivleniya PT dlya  
raboty v usloviyakh tropicheskogo klimata)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 64 - 65 (USSR)

ABSTRACT: Wire-wound resistances of the type PT which are designed for  
the tropics, are described. Their dimensions are calculated  
in such a manner that, in the case of nominal electrical  
charges, the surface temperature exceeds that of the en-  
vironment by more than 200°C. These resistances consist of  
a ceramic structure with rigid constructions and reeled up  
wire of highly effective resistance. From outside they are  
protected by a special coating against the actions produced  
by the external medium. The high quality of these coatings  
is due to the combination of silicon-organic polymeric com-  
pounds with specially treated mineral fillers. The resistances

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SOV/105-58-7-15/32

Constant Wire-Wound Resistances **PT** for Operation in Tropical Climates

are characterized by high-moisture-resistance. They are resistant against the action of mould fungi. They were tested by the Geneva Method MEK (Ref 1). They have both high mechanical and electrical resistance and warrant safe operation for more than 5000 hours. The "Uralizolyator" Works at present produce these resistances in accordance with the technical regulations TU - IOII.528.061-57. Examination of the resistance against fungi was carried out in the Laboratory of Electrophysics at the VFI (under the supervision of S. A. Zaganov). There are 1 figure, 2 tables, and 1 **Soviet** reference.

ASSOCIATION; 1) Institut khimii silikatov AN SSSR, Leningrad (1) Leningrad, Institute of the Chemistry of Silicates, AS USSR)  
2) Gosudarstvennyy issledovatel'skiy elektrokeramicheskii Institut, Moskva (2) **State Research Institute for Electroceramics, Moscow**

SUBMITTED: August 2, 1957

Card 2/3

Constant Wire-Wound Resistances P F for Operation in Tropical Climates SOV105-58-7-15/32

1. Resistors--Design

Card 5/5

DOLGOV, B.N., doktor khim.nauk; KHARITONOV, N.P., kand.khim.nauk;  
BELINSKAYA, G.V., kand.tekhn.nauk; AVETIKOV, V.G., kand.tekhn.  
nauk

PT wire-wound resistors useable under tropical conditions.  
Vest.elektroprom. 29 no.12:61-65 D '58. (MIRA 11:12)  
(Electric resistors)



BUDNIKOV, F.P., akademik; BELINSKAYA, G.V., kand.tekhn.nauk

Effect of iron oxides on certain properties of steatitic materials.  
Trudy GIEKI no.4:47-56 '60. (MIRA 15:1)

1. Akademiya nauk USSR (for Budnikov).  
(Ceramics) (Iron oxides)

BELINSKAYA, Galina Vasil'yevna; PESHKOV, Izyaslav Borisovich;  
KHARITONOV, Nikolay Pavlovich; REINE, V.T., doktor tekhn.  
nauk prof., otv. red.

[Heat insulation of winding wires] Zharostoikaia izoliatsiia  
obmotochnykh provodov. Moskva, Nauka 1965. 97 p.  
(MIRA 18:8)

ACC NR: AN5027770

Monograph

UR/

Belinskaya, Galina Vasil'yevna; Peshkov, Izyaslav Borisovich; Kharitonov, Nikolay Pavlovich

Heat-resistant insulation of magnet wires (Zharostoykaya izolyatsiya obmotochnykh provodov) Moscow, Izd-vo "Nauka", 65. 0097 p. illus., biblio.  
(At head of title: Akademiya nauk SSSR. Institut khimii silikatov im. I. V. Grebenshchikova) 2,000 copies printed.

TOPIC TAGS; electric distribution equipment, electric insulator, insulated wire, electric wire, fiber glass

PURPOSE AND COVERAGE: The book examines the basic construction methods of heat-resistant magnet wires. Investigation results of current-carrying conductors and various insulation types withstanding high temperatures are presented. The manufacturing of heat-resistant magnet wires are described. The book is intended for a broad circle of specialists working in various fields of modern technology involved in the construction and use of electrotechnical devices designed for work at high temperatures.

TABLE OF CONTENTS:

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Ch. II. Investigations of current-carrying conductors working at high temperature --23

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ACC NR: AM5027770

Ch. III. Organic-silicate electric insulating materials <sup>b</sup>--52

Ch. IV. Thinlayer conductor insulations --63 ✓

Ch. V. Glass fiber conductor insulations impregnated in organic-silicate materials

--80

15

Conclusion --94

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SUB CODE: 09/SUBM DATE: 18May65/ ORIG REF: 046/ OTH REF: 033

Card 2/2

BELINSKAYA, Galina Vasil'yevna; PESHKOV, Izyaslav Borisovich;  
KHARITONOV, Nikolay Pavlovich; RENNE, V.T., doktor tekhn.  
nauk, prof., otv. red.

[Heat insulation of winding wires] Zharostoikaia izo-  
liatsiia obmotochnykh provodov. Moskva, Nauka, 1965.  
97 p. (MIRA 18:7)

BELINSKAYA, G. V.

Dissertation: "Investigation of the Effect of Iron Oxides on the Properties of Steatite Materials." Cand Tech Sci, Moscow Chemicotechnological Inst, Moscow, 1953.  
(Referativnyy Zhurnal--Khimiya, Moscow, No 4, Feb 54)

SO: SUM 243, 19 Oct 54

BELINSKAYA, I.S.

Clinical and physiological analysis of acupuncture in patients with bronchial asthma and the determination of the place of this method in compound treatment of such patients. Sbor. trud. GMI no.9:159-162 '62. (MIRA 17:2)

1. Kafedra gospital'noy terapii Gor'kovskogo meditsinskogo instituta (zav. kafedroy prof. Vogralik, V.G.).

BELINSKAYA, L.A., mladshiy nauchnyy sotrudnik

New cartographic data on West Antarctica. Inform. biul. Sov.  
antark. eksp. no. 48:30-34 '64.

(MIRA 18:2)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy  
institut.



L 47218-66 EWT(1) GW

ACC NR: AT6018894

(N)

SOURCE CODE: UR/3174/64/000/048/0030/0034

AUTHOR: Belinskaya, L. A. (Junior research associate)

23

B+1

ORG: Arctic and Antarctic Research Institute (Arktichesky i antarktichesky nauchno-issledovatel'skiy institut)

TITLE: New cartographic data on Western Antarctica

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955-. Informatsionnyy byulleten', no. 48, 1964, 30-34

TOPIC TAGS: antarctic climate, cartography, map

ABSTRACT: This article cites the data of J. C. Behrendt, T. S. Laudon, R. J. Wold (Results of a Geophysical Traverse from Mount Murphy to the Hudson Mountains of the Antarctica. Journ. of Geophysical Research, vol. 69, no. 10, 1962); J. C. Behrendt, E. Perry, T. Parks (Antarctic Peninsula Traverse. Science, vol. 137, 1962); G. R. Bentley (Glacial and Subglacial Geography of Antarctica. Geophysical Monograph, no. 7, National Academy of Sciences -- National Research Council. Publication No. 1036, Washington, 1962) which permit correcting the map "Relief of the Antarctica" compiled at the Arctic and Antarctic Institute

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L 47218-66

ACC NR: AT6018894

(Arktichesky i antarktichesky institut) in 1960. These corrections are indicated along with glacial and subglacial maps of Western Antarctica. Orig. art. has: 2 figures.

SUB CODE: 08/ SUBM DATE: 07Dec63/ ORIG REF: 001/ OTH REF: 006

Card 2/2 fv

*BELINSKAYA, L.B.*

45

PHASE I BOOK EXPLOITATION SOV/5644

Vserossiyskaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov

Primeneniye ul' traakustiki k issledovaniyu veshchestva. vyp. 10. (Utilization of Ultrasonics for the Investigation of Materials. no. 10) Moscow, Izd-vo MOPI, 1960. 321 p. 1000 copies printed.

Eds.: V. F. Nozdrev, Professor, and B. B. Kudryavtsev, Professor.

**PURPOSE:** This book is intended for physicists and engineers interested in ultrasonic engineering.

**COVERAGE:** The collection of articles reviews present-day research in the application of ultrasound in medicine, chemistry, physics, metallurgy, ceramics, petroleum and mining engineering, defectoscopy, and other fields. No personalities are mentioned. References accompany individual articles.

Card 140

Utilization of Ultrasonics (Cont.)

SOV/5644

- Belinskaya, L. B., and B. A. Belinskiy [Moscow Oblast Polytechnical Institute imeni Krupskaya]. Energy Losses in the Electrical and Acoustical Lines of a Pulsed Ultrasonic Device 255
- Gershenson, Ye. M. [MGPI im. V. I. Lenina - Moscow State Pedagogical Institute]. The Passage of Electromagnetic Centimeter-Length Waves Through a Longitudinal Ultrasonic Screen 265
- Zakurenov, V. M. [Shuyskiy pedinstitut - Shuya Pedagogical Institute]. The Problem of Ultrasonic-Wave Absorption in Complex Esters of Formic Acid 269
- Zalivchiy, V. N. [Moscow Oblast Polytechnical Institute imeni N. K. Krupskaya]. The pulse Method of Studying

Card 9/10

БЕЛАНСКАЯ, К. С.

Investigation of displacement viscosity of some organic liquids over a large range of temperatures. L. G. Belinskaya. *Uchenye Zapiski Moskov. Oblast. Pedagog. Inst.* 33, 221-31 (1955); *Referat. Zhur., Khim.* 1956, Abstr. No. 12319. — Values for viscosity  $\eta$  were determined in  $10^{-4}$  poise, with an Ostwald-Finkevitz viscometer, for the following materials: (1) homologs of the series of satd. hydrocarbons: hexane 159-241 (from  $-40$  to  $+60^\circ$ ), heptane 187-280 (from  $-40$  to  $+60^\circ$ ), octane 1843-346 (from  $-60$  to  $+60^\circ$ ); (2) aromatic hydrocarbons: benzene 312-410 ( $0-60^\circ$ ), toluene 1683-383 (from  $-40$  to  $+60^\circ$ ); (3) halogen derivatives of benzene, bromobenzene 2644-667 (from  $-25$  to  $+40^\circ$ ), chlorobenzene 2400-624 (from  $-40$  to  $+60^\circ$ ); (4) acetates: MeOAc 1123-394 (from  $-50$  to  $+40^\circ$ ); BuOAc 3533-613 (from  $-50$  to  $+40^\circ$ ), amyl acetate 2200-687 (from  $-40$  to  $+40^\circ$ ). The viscosity of isooctane is 1842-641 (from  $-40$  to  $+40^\circ$ ). All the temps. given above follow the same order as  $\eta$ . As a result of investigations in high temps.,  $\eta$  of octane ( $20-210^\circ$ ), of toluene ( $20-270^\circ$ ), and of isooctane ( $20-270^\circ$ ) it was found that the dependence of  $\eta$  on temp. is strong at medium temps. and less at high temps.,  $\eta$  for isooctane is smaller than  $\eta$  for octane at corresponding temps.; close to crit. temps. values of  $\eta$  for octane and isooctane become almost equal. For all investigated materials the relation of  $\eta$  to the sp. and crit. vols. of the liquid fits well with the Bachinskii formula and conforms to the theoretical works of Predvoditel'eva (*L.A.* 28, 3934; 43, 57354). An analysis of the relation of  $\eta$  to the structure of investigated materials indicates an increase in  $\eta$  together with an increase in the no. of  $\text{CH}_2$  groups and an increase in mol. wt. Substitution of H by a halogen also causes an increase in  $\eta$ . For iso compds. in corresponding temps.  $\eta$  is lower than for normal compds. J. M.

7  
 4E2A  
 4E2B  
 2-May (7)  
 4E2C (7)

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 12



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26251

S/194/61/000/001/018/038  
D216/D304

AUTHORS: Belinskaya, L.G. and Belinskiy, B.A.

TITLE: Energy losses in electrical and acoustical lines of pulse ultrasonic installations

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 1, 1961, 14, abstract 1 E125 (V Sb. Primeneniye ul'traakust. k issled, veshchestva, no. 10, M., 1960, 255-263)

TEXT: The Laboratory of Molecular Acoustics of МОПИ (МОПИ) is investigating the absorption coefficient and the velocity of propagation of ultrasonic waves in liquids in the frequency range from a few to 200 Mc/s. A high-sensitivity receiver is being used, with special matching to eliminate losses between the generator and the receiver. The bloc-diagram of the receiver is given together with the results of measurements and theoretical evaluation of losses in acoustical and electrical lines. The results have confirmed the

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Energy losses...

possibility of using the installation with liquids of the ethyl-acetate type at values of the radiating quartz driving voltage of the order of  $10^{-4}$  v. The experimental data proves that the perturbation theory can be applied for assessing the results of measurements. 1 figure. 7 references.

Card 2/2



BELINSKAYA, L.G.

Absorption of ultrasonic waves in ethyl acetate. Prim. ul'traakust.  
k issl. veshch. no.14:71-75 '61. (MIRA 14:12)  
(Ultrasonic waves) (Ethyl acetate)

BELINSKAYA, I.G.; NOZDREV, V.F.

Absorption of ultrasonic waves in acetates at high frequencies.  
Prim. ul'traakust. k issl. veshch. no.15:75-78 '61.

(MIRA 16:8)

(Acetates--Acoustic properties)

BELINSKAYA, L.P.; VOL'FOVSKIY, V.D.

Treatment of chronic pyelonephritis. Vrach. delo no.8:45-50  
Ag'63. (MIRA 16:9)

1. Kafedra terapii (zav. - prof. Yu.D.Shul'ga) i fakul'tet-  
skoy khirurgii (zav. - prof. A.Z.Šeytlin) Khar'kovskogo me-  
ditsinskogo instituta.

(KIDNEYS—DISEASES)

S/073/61/027/001/002/002  
B103/B216

AUTHORS: Izbekova, O. V., Belinskaya, L. S., Kudra, O. K.

TITLE: A study of the nickel-pyrophosphate bath

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 27, no. 1, 1961, 118-121

TEXT: The authors have studied the usability of nickel-pyrophosphate baths which in comparison to cyanide baths have the advantages of being harmless and sufficiently stable. They studied the influence of component concentration, temperature and additives on the quality of the nickel deposit. The following additives were tested: H<sub>2</sub>SO<sub>4</sub>, HCl, KCl, formalin, phenol, peptone, Seignette salt and urea. The tests were carried out in a single bath or in several baths connected in series (6 x 2.5 x 9 cm, 100 ml volume) with plate-shaped nickel- and copper anodes. The back part of the anodes was isolated by a layer of paraffin or varnish. The electrode potentials were measured by means of a ППТБ-1 (PPTV-1) potentiometer against a saturated calomel electrode as reference and reduced to a normal hydrogen electrode. The electrolyte composition was so chosen as to give clear and stable solutions. This was the case with solutions consisting

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S/073/64/027/001/002/002  
B103/B216

A study of the nickel-pyrophosphate bath

of 0.05-0.3 mol/l  $\text{NiSO}_4$  mixed with solutions  $\text{K}_4\text{P}_2\text{O}_7/\text{NiSO}_4$  of molar ratio not below 2. At a molar ratio of 2-4, the  $\text{K}_4\text{P}_2\text{O}_7$  concentration had no influence on the appearance of the nickel deposit on copper cathodes at 20°C. Variation of the  $\text{SO}_4^{2-}$  concentration within wide limits affects neither the quality of the nickel deposit nor the current yield. The best coatings were obtained at  $\text{NiSO}_4$  concentrations of 0.17-0.30 mol/l and a current density of 0.5-1.0 a/dm<sup>2</sup>. At current densities around 0.1 a/dm<sup>2</sup> the deposit is whitish with uncovered areas. At 2-3 a/dm<sup>2</sup>, the deposits are black and at yet higher current densities nickel is not deposited at all. A temperature increase widens the permissible current density range. Though hydrogen was discharged simultaneously with nickel, pitting did not occur. The authors ascribe this to the thorough agitation of the electrolyte by the hydrogen bubbles and to the high negative cathode potential. Fig. 1 illustrates the reduction in current yield at 20°C produced by increasing the current density and pyrophosphate concentration. This effect gradually diminishes on further raising the current density and pyrophosphate excess. At lower current densities (approx-

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A study of the nickel-pyrophosphate bath

S/073/60/027/001/002/002  
B103/B216

mately  $0.1 \text{ a/dm}^2$ ) the current yield is hardly affected by the nickel concentration. At higher current densities the yields increase with increasing  $\text{NiSO}_4$  concentration. At 40 and  $60^\circ\text{C}$  and  $0.2 \text{ mol/l}$  of  $\text{NiSO}_4$  the yield is increased considerably by a temperature rise. The authors also found that the diffusibility of pyrophosphate electrolytes (according to the method by Field) is always much greater than that of acidic electrolytes. In service of pyrophosphate baths consisting only of  $\text{NiSO}_4$  and  $\text{K}_4\text{P}_2\text{O}_7$  the nickel anodes become strongly passive and the current yield drops to zero. The authors, however, used the initially mentioned additives. At a current density of  $1 \text{ a/dm}^2$ ,  $2.5 \text{ g/l}$  of  $\text{KCl}$  completely eliminated anodic passivity without detrimental effect to the quality of the deposit. At higher current densities the anode is only partially activated by the same amount of  $\text{KCl}$  and the current yields fall short of 100%. In this case the anode is usually covered by a dark incrustation. At higher temperatures smaller quantities of  $\text{KCl}$  have a lower activating effect, but here too, the anodic current yield at  $2.5\text{--}5 \text{ g/l}$  of  $\text{KCl}$  is nearly 100%. Fig. 2 shows the influence of additives on the cathodic polarization. The bath contained  $0.2 \text{ M}$  of  $\text{NiSO}_4$  at a molar ratio of

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A study of the nickel-pyrophosphate bath

S/073/64/027/001/002/002  
B103/B212

$K_4P_2O_7/NiSO_4 = 2.5$  at  $20^\circ C$ . The zero curve corresponds to polarization in the absence of additives. It is apparent from the curves that up to 10 ml/l of formalin (curve 1) produces an average cathode potential increase of 100 mv and up to 50 ml/l an increase of 150 mv (curve 2). Addition of phenol somewhat reduces polarization at low current densities (up to  $1 \text{ a/dm}^2$ ). The curves 3 and 4 were taken in presence of 1 and 10 g/l of phenol. The favorable effect of phenol is apparent in the increased luster of the coatings. Addition of 1 g/l of peptone or 1 g/l of urea also increases the cathode potential by 70-75 mv, and 10 g/l of peptone produce an increase of 110-120 mv. 10 g/l of Seignette salt reduce polarization by 30-35 mv. There are 2 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The reference to English language publications reads as follows: Vaid J., Rama Char T. L., J. Electrochem. Soc., 104, 460-461 (1957).

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskii institut (Kiev "Order of Lenin" Polytechnic Institute)

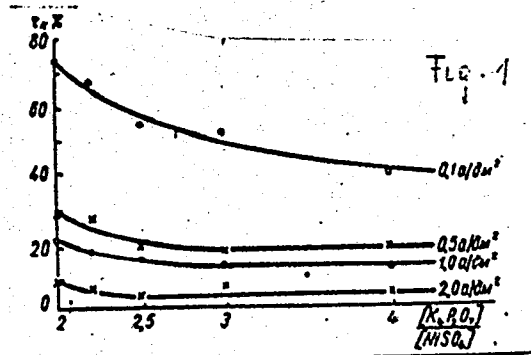
SUBMITTED: July 1, 1959

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A study of the nickel-pyrophosphate bath

S/073/61/027/001/002/002  
B103/B216

Legend to Fig. 1: Cathodic current  
yields ( $\eta_k$ ) in pyrophosphate bath  
with 0.2 mole  $\text{NiSO}_4$  at 20°C.



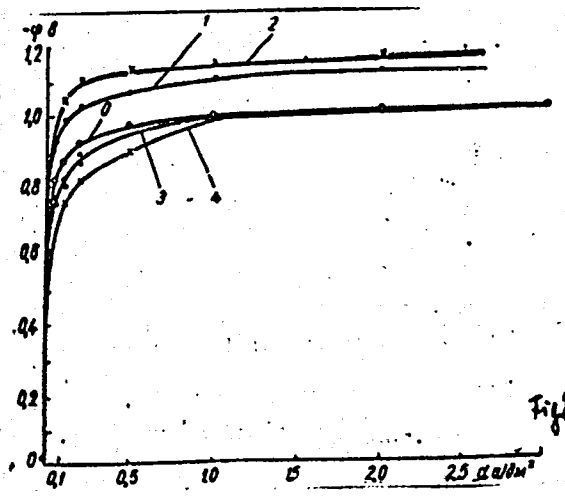
Card 5/6



A study of the nickel-pyrophosphate bath

S/073/61/027/001/002/002  
B103/B216

Fig. 2 - cf. text.



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IZBEKOVA, O.V.; BELINSKAYA, L.S.; KUDRA, O.K.

Study of the nickel pyrophosphate bath. Ukr. khim. zhur. 27  
no. 1:118-121 '61. (MIRA 14:2)

1. Kiyevskiy ordena Lenina politekhnicheskoy institut.  
(Nickel plating)

BELINSKAYA, M.S.; SHVYLEVA, A.A.; PROTS'KO, V.I.

Spectral method for determining copper in iron salts. Prom.  
khim. reak. i osobo chist. veshch. no.1:22 '63. (MIRA 17:2)

BELINSKAYA, N.I.; NIKOLAYEVSKAYA, Ye.Ye.; RUBINSHTEYN, R.P.

Newsprint with a reduced bleached woodpulp content. Bum. prom.  
31 no.7:6-8 J1 '56. (MLRA 9:10)

1. Moskovskiy filial Tsentral'nogo nauchno-issledovatel'skogo  
instituta bumagi (for Belinskaya, Nikolayevskaya) 2. Goslitizdat  
(for Rubinshteyn).

(Newsprint)