"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

Determination of the Optical Indexes of Enamel- and Glaze Coats SOV/ 72-58-7-11/19

For the gloss determination of the coats the head (Figs4 and 5) is adjusted alternately to a gloss etalon and then to a flat part of the controlled product. The gloss is calculated according to one of the three given formulas (4, 5, and 6). The determination results of the gloss are shown in Table 3; the calculations are carried out by means of the formulas (4) and (5). There are 5 figures, 3 tables, and 8 references, 6 of which are Soviet.

1. Enamel coatings--Optical properties 2. Enamel coatings --Colorimetric analysis 3. Ceramic materials--Optical properties 4. Ceramic materials--Colorimetric analysis

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV K. F.

15(2) p. 2, p. 4

AUTHOR: Vargin, V.V. SOV/72-58-12-22/23

TITLE: Conference on Enamels and Metal Enameling (Soveshchaniye po emalyam i emalirovaniyu metallov)

PERIODICAL: Steklo i keramika, 1958, Nr 12, pp 47-48 (USSR)

ABSTRACT: The organizers of the conference were: Leningradskoye oblastnoye nauchno-tekhnicheskoye obshchestvo promyshlennosti stroitel'nykh materialov (Leningrad Oblast Scientific and Technical Society of the Industry of Building Materials); Leningradskiy sovnarkhoz (Leningrad Council of National Economy) and Leningradskiy tekhnologicheskiy institut imeni Lensoveta (LTI) (Leningrad Technological Institute imeni Lensovet (LTI). The program of the conference included: the most important problems of enamel synthesis, enameling of metal products and industrial apparatus. About 250 experts took part in the conference: representatives from works in the UkrSSR, Ural, Novosibirsk, Ulan-Ude, Kuznetsk, Dzerzhinsk, as well as functionaries of the universities, of the scientific research and design institutes in Leningrad, Moscow, Novocherkassk, Dnepropetrovsk, Sverdlovsk, Riga, Khar'kov, and other towns. More than 40 reports were given and discussed. Professor K.S. Yevstrop'yev, director of the LTI imeni Lensovet, in his opening speech stressed the great economic importance of the problem of enameling

Card 1/6

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metal products and apparatus.
Besides, the following lectures were given:
V.V. Vargin (LTI imeni Lensovet) reported on the development in the enameling industry.
K.P. Azarov, S.I. Goncharov, Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnical Institute), reported on mechanization in the manufacture of enameled products.
V.P. Vaulin (Giprosteklo) spoke on mechanization in the manufacture of sanitary-technical products.
Ye.I. Litvinova (LTI imeni Lensovet) reported on the influence of metal quality on the formation of "fish-scales" in enameling.
A.A. Appen, Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry of the AS USSR), spoke on the present stage of the problems of calculating the properties of glass and enamels according to their composition.
M.V. Serebryakova (LTI imeni Lensovet) gave a survey of foreign literature on enamels and metal enameling.
M.N. Lifshits, Nauchno-issledovatel'skiy institut sanitarnoy tekhniki (Scientific Research Institute of Sanitary Engineering) reported on the enameling of products in the electric field of a corona discharge.
I.G. Petrunya, Luganskiy zavod imeni Artema (Luganskiy Works in Artema)

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SOV/72-58-12-22/23

Conference on Enamels and Metal Enameling

spoke of new types of enameled steel products made in this factory.
Yu.P. Nikitin, Ural'skiy politekhnicheskiy institut (Ural'skiy Polytechnical Institute) reported on the character of interaction between metals and melted enamels.
N.S. Smirnov, Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov (Ural'skiy Scientific Research Institute of Ferrous Metals) reported on the influence of the condition of the steel surface on the formation of the enamel coat.
A.I. Borisenko, Institute of Silicate Chemistry of the AS USSR, spoke on the new method of obtaining thin silicate coats of semi-colloid solutions.
Ye.N. Podkletnov spoke on a new enameling method with heating of the products by high-frequency currents.
P.A. Rozhdestvenskiy, Lys'venskiy metallurgicheskiy zavod (Lys'venskiy Metallurgic Works) gave informations on new enamels used by the factory.
T.I. Polyubash, Novosibirskiy metallurgicheskiy zavod (Novosibirskiy Metallurgic Works) reported on the dependence of the moistening angle and the enamel deliquescence on the correlation of boric and non-boric silts.

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SOV/72-58-12-22/23

Conference on Enamels and Metal Enameling

P.G. Pauksh, Latviyskiy gosudarstvennyy universitet (Latvian State University) reported on the investigation of fritted prime enamels for coating cast iron.
V.Ya. Lokshin, Scientific Research Institute of Sanitary Engineering, spoke on the influence of chemical composition on some properties of easily fusible powder enamels.
By the LTI imeni Lensovet the following reports were given:
L.L. Gutorova on prime-less steel and aluminum enameling.
M.V. Serebryakova on non-plumbic silicate enamels for aluminum.
G.A. Kudryavtseva on slightly colored antimony enamels.
Yu.V. Mazurek on the investigation of a systematic series of oxides for obtaining blue and brown pigments.
The Novocherkassk Polytechnical Institute gave the following reports:
K.P. Azarov on new methods of enamel testing, and on the influence of iron oxide on the physico-chemical properties of the prime coat.
V.G. Zerin on the importance of the gas phase in the burning process of the prime coat.
Ye.M. Chistova on phosphate enamels.
Ye.I. Podroykina on prime-less coats.
Collaborators of the Dnepropetrovsk Chemical-Technological Institute reported:
G.I. Belyayev on the acid content and basicity of enamels, and on

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SOV/72-58-12-22/23

Conference on Enamels and Metal Enameling

the influence of the composition on some properties of prime enamels.
Yu.D. Barinov on the damping of enamels by antimony.
L.V. Purin, Leningradskiy khimiko-pishchevoy kombinat (Leningrad Chemical Foodstuff Kombinat) and S.I. Solyanik (NIIKhIMMASh) on the experiment of manufacturing enameled chemical apparatus of steel.
A.M. Semenova spoke on the causes of blistering of prime enamels at the Zaporozhskiy "metiznyy" zavod (Zaporozh'ye "Metiznyy" Works) and the methods of preventing this fault.
V.I. Savchenko, Luganskiy Works imeni Artem, reported on the successful application of vibration grinding for crushing sand and non-boric enamel layers, as well as on the experiment of using white titanium enamels.
V.G. Zuyev reported on the improvement in the burning technology of enamel coats in connection with the change-over of furnaces to gas, as well as on prospects of muffle-less burning.
V.A. Oborin reported on the work of the design office of the enamel manufacture at the Lys'venskiy Metallurgic Works.
D.I. Yegorov, representative of the State Office for Planned Economy, on the planned production volume for the next years, as well as on the standard specifications of borax consumption provided.

Card 5/6

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

Conference on Enamels and Metal Enameling SOV/72-58-12-22/23

The members of the conference passed resolutions for obtaining an improvement in the quality of enameled products, as well as for increasing their production and creating a new technology and new production methods.

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

Azarov, K. P.

69-20-1-17/20

AUTHOR: Azarov, K.P.

TITLE: The Heaving of Silicate and the Blistering of Enamel Coatings on Steel (Vspuchivaniye silikatnykh rasplavov i vskipaniya emalevykh pokrytiy na stali)

PERIODICAL: Kolloidnyy Zhurnal, 1958, Vol XX, # 1, pp 118-120 (USSR)

ABSTRACT: In the article, the properties of boric and boron-free ground enamels are investigated. In boric enamels the surface tension is 210-240 dyn/cm; in boron-free enamels 250-280 dyn/cm. The solubility of iron oxides in the boric enamels amounts to 10%; in the boron-free enamels to 23%. Experiments have shown that the enamels without addition, and with addition of 15% iron oxide or 10.5 % of metallic iron powder do not blister when heated. The gas-forming addition of an iron oxide-graphite mixture causes considerable heaving of boron-free, and much less heaving of boric enamels. The formation of blisters on boron-free ground coatings on steel may be attributed to increase in the viscosity of the coatings in connection with the solution of the oxide skin in the thin layer of the coating adjacent to the metal. The above-mentioned addition was also effective in the case of formation of foam glass.

Card 1/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

69-20-1-17/20

The Heaving of Silicate and the Blistering of Enamel Coatings on Steel

There are 3 figures and 5 Soviet references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut imeni S. Ordzhonikidze Laboratoriya emaley (Novocherkassk Polytechnical Institute imeni S. Ordzhonikidze, Laboratory of Enamels)

SUBMITTED: March 17, 1957.

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

SOV/32-24-8-39/43

AUTHORS: Azarov, K. P., Gorbatenko, V. Ye.

TITLE: An Apparatus for Determining the Whiteness, Glaze, and Coloring of Enamel Coatings (Pribor dlya opredeleniya belizny, bleska i tsvetnosti emalevykh pokrytiy)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 8, pp. 1033 - 1034 (USSR)

ABSTRACT: The apparatus devised to make these determinations consists of three parts: a measuring head, a voltmeter, and a source of current (accumulator or voltage stabilizer). A schematic diagram of the optical and electrical set-up is given. The measuring head consists of a OI-7 exposure apparatus with iris diaphragm, condensor lenses, and a box for the filters and four selenium photo-electric cells. The whiteness is determined by using barium sulfate as a comparison and calculating according to a formula. The coloring of the enamel is determined using light filters, and the final value is calculated by a given equation. The glaze is measured in terms of the amount of light reflected from an angle of 45° at the surface being tested. This reflection is

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

An Apparatus for Determining the Whiteness, Glaze, SOV/32-24-8-39/43
and Coloring of Enamel Coatings

measured by the selenium photo-electric cells and compared to the reflection from a standard surface. Equations for calculation are given. There are 2 figures and 1 reference, which is Soviet.

ASSOCIATION: Laboratoriya emaley Novocherkasskogo politekhnicheskogo instituta imeni S.Ordzhonikidze(Laboratory for Enamel of the Novocherkassk Polytechnical Institute imeni S.Ordzhonikidze)

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K. P.

Distr: 4E2c/4E4j

Solubility of ferric oxide in ground-coat enamels for steels. K. P. Azarov and V. I. Balandina. Zhur. Prikl. Khim. 27, 308-9(1918).—Mixts. of enamels and Fe_2O_3 were heated 10 hrs. at 850° and 4 hrs. at 950° and quenched in H_2O. The soly. of Fe_2O_3 was detd. by the break in the curve of index of refraction or Fe_2O_3 content. The soly. increased in the following order: enamels without B < enamels with Ti < enamels with B. I. Ilencowitz.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; CHISTOVA, Ye.M.

Phosphate enamels. Zhur. prikl. khim. 31 no.10:1602-1604 O '58. (MIRA 12:1)

1. Laboratoriya emaley Novocherkasskogo politekhnicheskogo instituta.
(Enamel and enameling)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., dotsent, kand.tekhn.nauk; ZHDANOV, Yu.A., dotsent, kand. khimicheskikh i filosofskikh nauk; SKALOZUBOV, N.F., dotsent, kand.tekhn.nauk; uchastvovali: GORBATENKO, V.Ye.; GORBATENKO, N.G.; OVODOVA, A.V.

Use of glasses and glass frits in fertilizing the soil with trace elements. Trudy MPI 47:3-10 '58. (MIRA 13:5)
(Glass) (Fertilizers and manures)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., dotsent, kandidat tekhnicheskikh nauk

Processes of forming enamel coatings on steel. Trudy NPI 47:177-199 '58. (MIRA 13:5)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni Sergo Ordzhonikidze; kafedra tekhnologii keramiki, stekla i emaley.
(Steel) (Enamel and enameling)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., dotsent, kand.tekhn.nauk; GORBATENKO, V.Ye., starshiy prepodavatel'

Instruments controlling the manufacture of enameled wares.
Trudy NPI 47:201-227 '58. (MIRA 13:5)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni Sergo Ordzhonikidze; kafedra tekhnologii keramiki, stekla i emaley.
(Enameled ware)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., dotsent, kand.tekhn.nauk; ZHRIN, V.G., assistent

Determination of the amount of gases contained in enamels. Trudy NPI 47:229-231 '58. (MIRA 13:5)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni Sergo Ordzhonikidze; kafedra tekhnologii keramiki, stekla i emaley.
(Enamel and enameling) (Gases)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., dotsent, kandidate tekhnicheskikh nauk; GRECHANOVA, S.B., assistent

Surface tension of ground enamels used on steel. Trudy NPI 47:233-242 '58. (MIRA 13:5)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni Sergo Ordzhonikidze; kafedra tekhnologii keramiki, stekla i emaley.
(Enamel and enameling) (Surface tension)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., dotsent, kand.tekhn.nauk; CHISTOVA, Ye.M., aspirant

Phosphate enamels. Trudy NPI 47:273-292 '58.
(MIRA 13:5)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni Sergo Ordzhonikidze; kafedra tekhnologii keramiki, stekla i emaley.
(Enamel and enameling) (Phosphates)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

Azarov, K. P.

20-2-41/60

AUTHORS: Azarov, K. P., Grechanova, S. B.

TITLE: The Influence Exerted by Ferric Oxide Upon the Viscosity of Enamels Containing, or Devoid of, Boron (Vliyaniye okisi zheleza na vyazkost' bornykh i bezbornykh emaley)

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 2, pp. 348 - 350 (USSR)

ABSTRACT: The part played by the viscosity in the formation of the main faults of boronless coatings was hitherto not determined. It has been tried for years to produce boronless basic enamels which would, like the boron-containing ones, be free of these faults: effervescence and burning through. The authors found that the effervescences begin to develop at about 750°C. There were no data on the viscosity of enamel-melts around these temperatures (references 1-6). In this connection the authors investigated the viscosity of the following industrial enamels by means of the well-known method of thread--extension in the range of fusing: boron-containing numbers 18, 124 and 210, boronless numbers 16, 27 and 35 as well as titanium--enamels numbers 121 and 174. Further the viscosity of those enamels which were molten together with 2 - 25 % ferric oxide was measured. From figure 1 is to be seen that the viscosity of the investigated boron-enamels is higher than that of the rest. A

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

The Influence Exerted by Ferric Oxide Upon the Viscosity of Enamels Containing, or Devoid of, Boron

crass difference manifests itself between the boron-containing and boronless enamels when ferric oxide is added. The viscosity of the boronless enamels no. 35 b/b considerable increases with increasing content of ferric oxide (figure 2 a). Only very small additions (2%) reduce their viscosity. The boron enamel no. 18 b (figure 2 b) reacts inversely. Figure 3 shows that all boronless enamels react similar to number 35 b/b. At high temperatures ferric oxide reduces the viscosity as well of the boron-containing as of the boronless enamels (figure 4). The different influence of ferric oxide upon the viscosity of the two sorts of enamels in the range of fusion may be ascribed to the formation of different forms of iron. In boron-enamels which are less basic than the boronless ones (references 13, 14) a prevalence of iron with a high coordination number is more probable. It has the position of the network-modifier which weakens the system and diminishes the viscosity. In the higher basic boronless enamels the FeO_4^{5-} groups with low coordination number increase the solidity of system by binding part of the SiO_4^{4-} tetrahedrons. The viscosity is thereby increased. As far as ferric oxide at high temperatures reduced the viscosity of the two kinds of enamels, the iron here rather plays the part of a modifier than of a vitrifier. In the light of these results it is also possible to

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20-2-41/60

The Influence Exerted by Ferric Oxide Upon the Viscosity of Enamels Containing, or Devoid of, Boron

describe the mechanism of effervescence and burning-through of boronless basic coatings. During the initial stages of burning the steel is intensively oxidized under the coating. Thus a very thin contact-layer is saturated with ferric oxides. In boronless coatings this leads to a rapid increase in viscosity, whereas it decreases in boron-enamels. In the boronless enamels larger blisters form which burst and which are hard to cover. Atmospheric oxygen oxidizes the steel in the places of the burst blisters. The local accumulations of ferric oxides thus developing merge with the enamel and form burnings-through. In spite of the reduction of the viscosity of boronless enamels at high temperatures these faults are not completely removed. In order to prevent effervescences and burnings--through means shall be sought which reduce the viscosity of the basic coatings in the zone of contact with the metal. There are 4 figures, and 15 references, 1 of which is Slavic.

ASSOCIATION: Polytechnic Institute imeni S. Ordzhonikidze, Novocherkassk (Novocherkasskiy politekhnicheskiy institut im. S. Ordzhonikidze)

PRESENTED: June 12, 1957, by P. A. Rebinder, Academician

SUBMITTED: May 21, 1957

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

SOV/136-59-1-17/24

AUTHORS: Azarov, K.P., and Gorbatenko, V.Ye.

TITLE: Enamelling of Aluminium (Ob emalirovanii alyuminiya)

PERIODICAL: Tsvetnyye Metally, 1959, Nr 1, pp 79-82 (USSR)

ABSTRACT: The authors review some non-Soviet data on the enamelling of aluminium. They describe their own tests with a range of phosphate enamels recommended (Ref 8) and Soviet-made aluminium sheet. The aluminium was degreased, treated with thiourea-containing sulphuric acid and oxidized with a solution containing chromium sulphate (1.2 g/litre), chromic anhydride (120 g/l) and sodium hydroxide (145 g/l) at 45-50° for 4-5 minutes. The washed specimens were then heated at 580-600°C for 5 minutes and enamelled, the coating (by dipping) and heating being repeated once or twice. Two of the seven enamels tried gave coatings of satisfactory appearance, resistance to acid (test procedure GOST 506-55) and adhesion (Ref 10). The compositions of these two enamels are, respectively: 2.7, 3.4% Li_2O; 10.9, 14.9% Na_2O; 7.4, 8.5% NaF; 18.7, 21.5% Al_2O_3; 6.4, 11.8% B_2O_3; 46.9, 35.9% P_2O_5;

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SOV/136-59-1-17/24

Enamelling of Aluminium

7.0, 4.0% CuO. The authors recommend that further work should be based on these enamels. There are 4 tables and 10 references, 2 of which are Soviet, 7 English and 1 German.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkasskiy Polytechnic Institute)

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

SOV/69-21-2-3/22

On the Viscosity of Steel Enamels

which testifies to the tendency of boron-free primary and secondary enamels to crystallize; 2) at the softening temperature, the ferric oxide increases the viscosity of boron-free primary and boron-containing secondary enamels, and reduces the viscosity of boron-containing primary enamels; 3) cupric oxide reduces the viscosity of boron-free primary and boron-containing secondary enamels, whereby these coatings on copper do not show defects; 4) the occurrence of defects on enamels used as steel coatings, is due to an increase in the viscosity of the coating as a result of the saturation by scale of a thin layer covering the oxidized steel. There are 5 graphs and 23 references, 14 of which are English, 4 Soviet, 3 German and 2 French.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut im. S. Ordzhonikidze, Laboratoriya emaley (Novocherkassk Polytechnical Institute imeni S. Ordzhonikidze, Enamel Laboratory)

SUBMITTED: July 3, 1957

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

28(4) SOV/32-25-4-47/71

AUTHORS: Azarov, K. P., Gorbatenko, V. Ye., Krolikov, V. N.

TITLE: A Simple Device for Measuring the Thickness of Nonferromagnetic Coatings on Steel (Prostoy pribor dlya izmereniya tolshchiny neferromagnitnykh pokrytiy na stali)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, p 486 (USSR)

ABSTRACT: The electromagnetic layer thickness gauges with balanced (Ref 1) and not balanced (Ref 2) bridge offer a high measuring accuracy, but the devices are complicated and not always practicable for use. A pocket layer thickness gauge (Figure) is described which was designed in imitation of a device described in American publications (Ref 3). The working principle of the device is based on the measurement of the attractive force of a permanent magnet of the ferromagnetic basis depending on the thickness of the nonmagnetic coating. The device has the shape of a fountain pen holding the ball-shaped permanent magnet instead of the writing pen. The case of the device is made of organic glass and is provided with a measuring scale. Inside the device, there is a spiral spring; by its stretching, the layer thickness can be read off on the measuring scale depending

Card 1/2

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SOV/32-25-4-47/71

A Simple Device for Measuring the Thickness of Nonferromagnetic Coatings on Steel

on the layer thickness of the coat to be measured. There are 1 figure and 3 references, 2 of which are Soviet.

ASSOCIATION: Laboratoriya emaley Novocherkasskogo politekhnicheskogo instituta im. S. Ordzhonikidze (Laboratory of Enamels of the Novocherkassk Polytechnic Institute imeni S. Ordzhonikidze)

Card 2/2

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S/081/60/000/022/006/016
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, p. 325, # 89425

AUTHORS: Azarov, K. P., Gorbatenko, V. Ye.

TITLE: On the Resistance to Bending of Enamel Coatings

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1959, Vol. 97, pp. 53-62

TEXT: A device is proposed for determining the bending strength of ready-made coatings. The device's design permits the bending of the specimens with both stretching and compression of the enamel layer. It turned out that the strength of thin coatings at bending with stretching depends in the first place on the magnitude of the average linear coefficient of thermal expansion of the enamel. It is shown that the bending strength of the coating considerably decreases with its increasing thickness. In this case, the enamel composition has markedly lower effect than with thin coatings.

Authors' summary

Translator's note: This is the full translation of the original Russian abstract.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

S/081/60/000/022/010/016
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, p. 326, # 89433

AUTHORS: Azarov, K. P., Gorbatenko, V. Ye.

TITLE: Enamels for Aluminum

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1959, Vol. 97, pp. 63-71

TEXT: Results are presented from investigations of phosphate enamels (7 compositions) for enameling of native sheet aluminum. The specimens of sheet aluminum of 25 x 40 mm in size were freed from fat in an alkali solution containing (in g/l): hypophospite of Na 50, Na_2CO_3 50, water glass 30, at 60-70°C during 4-5 min. The specimens were washed during 15 min in water and treated at room temperature with a 6%-H_2SO_4 solution containing 0.1% thiocarbamide, and then they were subjected to chemical oxidizing at 45-50°C during 4-5 min. The washed and dried specimens were roasted at 580-600°C during 5 min and coated with enamel dross by dipping. After drying at 70-80°C the specimens were roasted in an electric furnace at 580-600°C during 5 min and cooled in air. Two compositions of enamel mixtures yielded satisfactory results (in percentage by weight): Li_2O 2.7

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A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, p. 236, # 89431

AUTHORS: Azarov, K. P., Chechel', L. D.

TITLE: The Role of Hydrogen in the Formation of "Fish Scale" Defect in the Enamel Coating

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1959, Vol. 97, pp. 87-91

TEXT: The role of steel and some technological factors in the formation of "fish scales" was studied. The cathodic etching method was used for testing. It turned out that cold rolling and increased steel drawing degree considerably increase the resistance to fish-scale formation; preliminary copper- or iron-plating of the specimens prevents the fish-scale formation; with increasing thickness of the coating the time needed for the fish-scale formation increases; boron-free coatings resist considerably better the fish-scale formation than boric ones. The tests were conducted with the following coating enamels: titanic, cryolitic, and Dutch titanic and cryolitic at the thickness of the roasted coating being 0.15 and 0.40 mm. The tests showed that the titanic enamel withstands well the fish-scale

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S/081/60/000/022/011/016
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, p. 326, # 89435

AUTHORS: Azarov, K. P., Berdova, G. V., Grechanova, S. B., Fodroykina, Ye. I.

TITLE: Enamels for Steel Without Prime Coat

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1959, Vol. 97, pp. 93-98

TEXT: The effect of some physical-chemical properties was studied of enamels without and with prime coat and with and without boron, on the origination process of coating swelling. Form the variation of the index of refraction, the solubility of Fe_2O_3 was determined in white boric titanic enamels without prime coat, antimonic enamels without prime coat, and enamels with prime coat with and without boron. The solubility of Fe_2O_3 in enamels without prime coat is lower than that in boric enamels with prime coat and near the solubility in enamels with prime coat without boron. With increasing content of Fe_2O_3 the viscosity of the enamels with boron and without prime coat as well as the enamels without boron and with prime coat increases sharply, but that of the enamels with boron and prime coat decreases. The experiments on the artificial swelling of enamels showed that

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27127

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S/080/60/033/008/020/022/XX
D213/D305

AUTHORS: Azarov, K.P., Balandina, V.V., Lyutsedarskiy, V.A.

TITLE: Magnetochemical investigations of iron-containing glasses (enamels)

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 8, 1960, 1900 - 1901

TEXT: In the present work the authors studied the magnetic properties of boron and boron-free glasses (enamel primers for steel) to establish the relation between the position of iron and the properties of the glass, an important factor in the physical chemistry of enamelling. The glasses examined were heated for 4 hours with 5 % ferric oxide at 500 - 1000°C and quenched in water to fix the position of iron at a given temperature. The powdered glass was sieved through a 10,000 openings/cm^2 sieve and its magnetic susceptibility determined by Guy's method. To eliminate the presence of ferro-magnetic admixtures in the enamels (glasses) all the ex-

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periments were conducted in magnetic fields of 250-400 oersteds. The specific susceptibility was then calculated from

$$x_2 = \frac{x_1 \ell_2 m_1}{\Delta p_1 \ell_1 m_2} \quad p_2 \qquad (1)$$

where x_1 and x_2 - specific magnetic susceptibilities of blank and test samples, m_1 and m_2 - masses of powder in grams, Δp_1 and Δp_2 - change in weight in grams, ℓ_1 and ℓ_2 - heights of powders in ampoules in cm. The blank used in the experiments was made up of Mohr's salt. The magnetic moments of iron for boron and boron-free enamels increase at 500-700°C which in the absence of ferromagnetic material is due to the rupture of the crystalline lattice of Fe_2O_3 and the gradual introduction of iron into the glass structure. This assumption agrees with the findings of the divergence between Weiss constants for iron-containing enamels (-500°K) and for

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Magnetochemical investigations ... S/080/60/033/008/020/022/XX
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Fe_2O_3 (~2000°K) which indicates a weakening of the bonds between iron atoms. In the 500 - 700°C interval boron-free enamel differs from boron enamel in the magnetic moment value which may be attributed to the relatively high content of Fe^{3+}. With a further temperature increase, from 700-1000°C, an alternating increase and decrease of magnetic moments of iron is observed and at 850-950°C a maximum value of 6.05 Bohr magnetons is obtained (theoretical value for Fe^{3+} is 5.92). This fact establishes a similarity in the action of boron and boron-less enamel melts on the position of iron at given temperatures. There are 1 figure and 9 references: 3 Soviet-bloc and 6 non-Soviet-bloc. The references to the 4 most recent English-language publications read as follows: H. Cole, J. Soc. Glass Techn., 35, 162, 25-40, 1951; J. De Jong, J. Soc. Glass Techn., 38, 181, 57T-83T, 1954; A.E.M. Abou-El-Azm, J. Soc. Glass Techn. 38, 181, 101T-145T, 1954; J.M. Stevels, Proceedings Intern. Comm. on glass 1, 71, 1954.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

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S/080/60/033/008/020/022/XX
D213/D305

Magnetochemical investigations ...

ASSOCIATION: Laboratoriya emaley Novocherkasskogo politekhnicheskogo instituta im. Sergo Ordzhonikidze (Enamel Laboratory of Novocherkask, Polytechnic Institute im. Sergei Ordzhonikidze)

SUBMITTED: December 14, 1959

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

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A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 16, p. 371, # 66228

AUTHORS: Azarov, K.P., Zerin, V.G.

TITLE: Determining the Amount of Gases in Enamels

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, No. 47/61, pp. 229-231

TEXT: The determination of the amount of gases liberating during enamelling and heating up to 900°C, showed that the enamels are not the sources of gases causing bubbling and burnings of boron-free priming coatings.

G. Gerashchenko

Translator's note: This is the full translation of the original Russian abstract.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

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A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 16, p. 371, # 66227

AUTHORS: Azarov, K.P., Grechanova, S.B.

TITLE: Surface Tension of Priming Enamels for Steel

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, No. 47/61, pp. 233-242

TEXT: The authors studied surface tension of industrial priming boric, boron-free and titanium enamels and non-priming boric titanium enamel, fused with 5, 10, 15 and 20% ferric oxide. The effect of the admixtures of 0.5% Cu_2O, Cu_2S, Sb_2O_3, Sb_2S_3 was investigated to control the surface tension, which was determined by the method of the drop weight. The investigations show that surface tension of boron-free priming enamels is higher than that of boric and titanium enamels. Ferric oxide does practically not change the surface tension of boric and boron-free enamels but reduces that of titanium enamel. The admixtures investigated reduce surface tension of boron-free and titanium enamel but increase

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Surface Tension of Priming Enamels for Steel

that of boron priming. Maximum reduction of surface tension is caused by Sb_2S_3 then by Cu_2S, Cu_2O and Sb_2O_3. There are 20 references.

G. Gerasimchenko

Translator's note: This is the full translation of the original Russian abstract.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

S/081/60/000/016/010/012
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 16, p. 371, # 66229

AUTHORS: Azarov, K.P., Grechanova, S.B.

TITLE: On the Effect of Iron Oxides on Swelling of Enamels 15

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, No. 47/61, pp. 243-258

TEXT: Investigations of the causes of swelling and bubbling of enamels showed that the strong swelling of boron-free priming and boric non-priming enamels with iron oxide in the presence of a gas forming material, and proneness to bubbling were caused by higher viscosity, crystallization, high surface tension and low moistening capacity of boron-free coatings. There are 25 references.

The author's summary

Translator's note: This is the full translation of the original Russian abstract.

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PHASE I ID PUBLICATION SOV/5959

Vsesoyuznoye soveshchaniye po steklookhranu i sostoyaniyu. 3d, Leningrad, 1959.

Steklookhrannoye sostoyaniye; trudy Tretiyego vsesoyuznogo soveshchaniya Leningrad, 16-20 noyabrya 1959 (Vitreous State; Transactions of the Third All-Union Conference on the Vitreous State, Held in Leningrad November 16-20, 1959) Moscow, Izd-vo AN SSSR, 1960. 534 p. Errata slip inserted. 3,000 copies printed. (Series: Its: Trudy)

Sponsoring Agencies: Institut khimii silikatov Akademii nauk SSSR. Vsesoyuznoye khimicheskoye obshchestvo imeni D.I. Mendeleyeva and Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova.

Editorial Board: A.I. Avgustinik, V.P. Barzakovskiy, M.A. Bezborodov, O.K. Botvinkin, V.V.Vargin, A.G. Vlasov, K.S. Yevstrop'yev, A.A. Lebedev, M.A. Matveyev, V.S. Nikiforov, P.L. Myuller, Ye.A. Poray-Koshits, Chairman, M.A. Toropov, V.A. Florinskaya, A.K. Yakhkind; Ed. of Publishing House: A.V. Gurevich; Tech. Ed.: V.T. Bochever.

PURPOSE: This book is intended for researchers in the science and technology of glasses.

COVERAGE: The book contains the reports and discussions of the Third All-Union Conference on the Vitreous State, held in Leningrad on November 16-19, 1959. They deal with the methods and results of studying the structure of glasses, the relation between the structure and properties of glasses, the nature of the chemical bond and glass structure, and the crystallochemistry of glass. Fused silica, mechanism of vitrification, optical properties and glass structure, and the electrical properties of glasses are also discussed. A number of the reports deal with the dependence of glass properties on composition, the tinting of glasses and radiation effects, and mechanical, technical, and chemical properties of glasses. Other papers treat glass semiconductors and soda borosilicate glasses. The Conference was attended by more than 300 delegates from Soviet and East German scientific organizations. Among the participants in the discussions were N.V. Solomin, Ye. V. Kuvshinskiy, Yu.A. Gostev, V.P. Pryanishnikov, Yu. Ya. Gotlib, O.P. Mchedlov-Petrosyan, G.P. Mikhaylov, S.M. Petrov, A.N. Lazarev, D.I. Levin, A.V. Shatilov, N.T. Ploshchinskiy, A.Ya. Kuznetsov, E.V. Degtyareva, G.V. Pyurganovskaya, A.A. Kalenov, M.M. Skornyakov, P.Ya. Bokin, E.K. Keller, Ya.A. Kuznetsov, V.P. Porzhev, R.S. Shevelevich, Z.G. Finkzer, and O.S. Molchanova. The final session of the Conference was addressed by Professor I.I. Kitaygorodskiy, Honored Scientist and Engineer, Doctor of Technical Sciences. The following institutes were cited for their contribution to the development of glass science and technology: Gosudarstvennyy opticheskiy institut (State Optical Institute), Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR), Fiziko-tekhnicheskiy Fizicheskiy institut AN SSSR (Physics Institute AS USSR), Institut fiziki AN BSSR, institut AN SSSR (Physicotechnical Institute AS USSR), Institut fiziki AN BSSR, Minsk (Institute of Physics, Academy of Sciences, Belorusskaya SSR, Minsk), Laboratory of Physical Chemistry of Silicates of the Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk (Institute of General and Inorganic Chemistry, Academy of Sciences, Belorusskaya SSR, Minsk), Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds, AS USSR), Gosudarstvennyy institut stekla (State Institute for Glass), Gosudarstvennyy institut steklovolokna (State Institute for Glass Fibers), Gosudarstvennyy institut elektrotekhnicheskogo stekla (State Institute for Electrical Glass), Sibirskiy fiziko-tekhnicheskiy institut, Tomsk (Siberian Physicotechnical Institute, Tomsk), Leningradskiy gosudarstvennyy universitet (Leningrad State University), Moskovskiy khimiko-tekhnologicheskiy institut (Moscow Institute of Chemical Technology), Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institut imeni Lensovet), Belorusskiy politekhnicheskiy institut Minsk (Belorussian Polytechnic Institute, Minsk), Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute), and Sverdlovskiy politekhnicheskiy institut (Sverdlovsk Polytechnic Institute). The Conference was sponsored by the Institute of Silicate Chemistry AS USSR (Acting Director - A.S. Gotlib), the Vsesoyuznoye khimicheskoye obshchestvo im. D.I. Mendeleyeva (All-Union Chemical Society imeni D.I. Mendeleyev), and the Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova (State "Center of Lenin" Optical Institute imeni S.I. Vavilov). The 25 resolutions of the Conference include recommendations to organize a Center for the purpose of coordinating the research on glass, to publish a new periodical under the title "Fizika i khimiya stekla" (Physics and Chemistry of Glass), and to join the International Committee on Glass. The Conference thanks A.A. Lebedev, Academician, Professor, and Chairman of the Organization Committee; Ye.A. Poray-Koshits, Doctor of Physics and Mathematics, Member of the Organizational Committee, and P.L. Myuller, Doctor of Chemical Sciences, Member of the Organizational Committee. The editorial board thanks G.M. Bartenev, M.V. Vol'kenshteyn, L.I. Demkina, D.P. Dobychin, S.K. Dubrovo, V.A. Ioffe, and B.T. Kolomiyets. References accompany individual reports.

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23347 S/058/61/000/006/034/063
A001/A101

AUTHORS: Azarov, K.P., Balandina, V.V., Grechanova, S.B., Lvutsedarskiy, V.A.

TITLE: The structure and properties of iron-containing glasses

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1961, 224, abstract 6D271 (V sb. "Steklobrazn. sostoyaniye", Moscow-Leningrad, AN SSSR, 1960, 365-368, Discus. 377 - 379)

TEXT: The authors investigated magnetochemical and other properties of boron and boron-free glasses and enamels containing iron. On the basis of data obtained, the authors drew conclusions on the valent and coordination states of Fe^{2+} and Fe^{3+} ions and their position in the structural skeleton of the glass. The conclusion was arrived at that iron in boron glasses and enamels was mainly present in the form of Fe^{2+} cations weakly bound with the glass structure. In boron-free glasses, Fe is present mainly in the trivalent state in the form of FeO_3 and FeO_4 groups which are parts of the glass structural skeleton and strengthen the latter.

T. Veymberg

[Abstracter's note: Complete translation]

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AZAROV, K.P

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PHASE I BOOK EXPLOITATION SOV/5583

Podkletnov, Ye. N., Stalin Prize Winner, ed.

Emal' i protsessy emalirovaniya (Enamels and Enameling Processes) Moscow, Mashgiz, 1961. 113 p. 4,000 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov UkrSSR. Institut tekhnicheskoy informatsii.

Ed.: N. P. Onishchenko; Tech. Ed.: M. S. Gornostaypol'skaya; Chief Ed.: Mashgiz (Southern Dept.): V.K. Serdyuk, Engineer.

PURPOSE: This book is intended for engineering and technical personnel concerned with the research, production, and uses of enamel.

COVERAGE: This collection of articles on enamels and enameling processes is based on material presented at the first Ukraine-wide conference on the production of enamel and enameled equipment, organized by the State Scientific Technical Committee of the Ukrainian SSR, the Kiyev Sovnarkhoz, Chemical

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Enamels and Enameling Processes SOV/5583

Society imeni Mendeleyev, Scientific Technical Society of the Machine-Building Industry, and other sovnarkhozes, scientific research institutes, and planning organizations. [The name, place, and date of the conference are not given.] The following are discussed: old and new types of enamels, their composition, properties, uses, and methods of production; the production of enameled equipment (chemical apparatus, pipes, cisterns, etc.), and their use in the coal, chemical, food, and other industries; latest advances in the mechanization of enameling processes and techniques; the effect of underlying surfaces on the quality of enamel coatings; and methods of modifying the properties of enamel coatings, e.g., increasing their chemical stability. American and Chinese practices and production are also briefly discussed. No personalities are mentioned. There are 32 references: 22 Soviet, 7 English, and 3 German.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.F.; BALANDINA, V.V.; CHISTOVA, Ye.M.; RODIONOVA, A.V.

Crystallization of titanium phosphate enamels. Izv.vys.ucheb.zav.:-khim.i khim.tekh. 4 no.4:647-650 '61. (MIRA 15:1)

1. Novocherkasskiy politekhnicheskiy institut imeni Ordzhonikidze, laboratoriya emaley.
(Enamel and enameling) (Titanium phosphate)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; GORBATENKO, V.Ye.

Effect of the composition of enamels containing iron on the whiteness of the coating. Stek. i ker. 18 no.11:32-35 N '61. (MIRA 15:3)

(Enamel and enameling)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; GORBATENKO, V.Ye.

Effect of iron oxides on the thermal expansion coefficient of primer enamels. Zhur.prikl.khim. 34 no.8:1883-1885 Ag '61. (MIRA 14:8)

1. Laboratoriya emaley Novocherkasskogo politekhnicheskogo instituta.

(Enamel and enameling)
(Iron oxide)

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D228/D301

15.2510

AUTHORS: Azarov, K.P., Balandina, V.V., and Lyutsedarskiy, V.A.

TITLE: Magneto-chemical investigations of glasses of the system $Na_2O - P_2O_5 - V_2O_5$

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 11, 1961, 2560 - 2562

TEXT: The authors studied the magneto-chemical properties of $Na_2O - P_2O_5 - V_2O_5$ glasses with the aim of tentatively assessing the state of V in such a system. Research into the properties of glasses of the systems $V_2O_5 - P_2O_5$, $V_2O_5 - P_2O_5 - BaO$, and $V_2O_5 - P_2O_5 - Na_2O - BaO$ suggests that V plays an analogous role to P in these systems, and that compounds of V with O should be excluded from the number of glass-forming oxides. The glasses were prepared by heating batches of Na_2CO_3, $(NH_4)H_2PO_4$, and V_2O_5 in corundum crucibles at 900 - 1200°, after which the mixtures were first air-

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cooled and then pulverized. The magnetic susceptibilities of the powders was determined by the Gouy method, the magnetic moment μ of V in the glasses being computed from the formula:

$$\mu = 2.83\sqrt{\frac{100}{P}\chi AT}$$

where p is the V content of the glass, χ - the specific magnetic susceptibility, A is the atomic weight of V, and T is the absolute temperature. These values were compared with the theoretical magnitudes for the effective magnetic moment of different V ions, calculated from

$$\mu = \sqrt{n(n+2)}$$

where n is the number of uncoupled electrons. For most of the glasses with a Na_2O content of 40 - 55 mol. % the magnetic moment of V lies in the range 3.14 - 5.36 Bohr magnetons which indicates the predominance of ions with a valency of <5 (V^{3+} and V^{4+}). In sections with a constant Na_2O content the magnetic moment of V decreases - which corresponds to the rise in the relative concentration of V^{4+} ions - as the V_2O_5 content increases at the expense of P_2O_5.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

BUDNIKOV, P.P.; AZAROV, K.P.; GRECHANOVA, S.B.; SHCHERBAK, T.I.

Study of the process of expansion of perlite. Stroi.mat. 8 no.11:32-34 N '62. (MIRA 15:12)

(Perlite (Mineral))

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

L 12650-63 BDS/EWP(q)/EWT(m) AFFTC/ASD Pq-4 WH

ACCESSION NR: AP3002696 S/0080/63/036/005/0969/0973

59
54

AUTHORS: Azarov, K. P.; Balandina, V. V.

TITLE: Analysis of the system Na sub 2 - P sub 2 O sub 5 - V sub 2 O sub 5 in vitreous state

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 5, 969-973

TOPIC TAGS: vanadium, sodium, Na sub 2 O, glass, specific susceptibility, magnetic moment

ABSTRACT: Authors studied the effect of changes in Na_2O content from 35 to 100 mol. % upon the system Na_2O-P_2O_5-V_2O_5. Purpose of this study was to ascertain the possible positions of vanadium in glasses of the above system. In the first series of tests, the boundaries of the composition areas, glass-forming temperature, fusibility, chemical stability, specific susceptibility and magnetic vanadium moment in the glasses were determined. For determining the composition boundaries and glass-formation temperatures, the batches were melted in 5 ml. porcelain analysis boats inside of a silit-heated furnace. Experiments were carried out at temperatures from 800 to 1300C with 50 degree intervals. The glass samples intended for other tests were melted in 50 ml. corundum crucibles. The melted

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L 12650-63

ACCESSION NR: AP3002696

2

glasses were fast-dried in air. The degree of homogeneity and crystallization was ascertained by visual and microscopic observation. A ternary diagram was constructed which included Na_2O content from 35 to 60 mol. %. The largest amount of Na_2O with which vanadium glasses could be formed was 60 mol. %. The analyzed glasses are characterized by a high tendency to crystallization. The glasses which were the easiest to fuse were those with a 5 to 15 mol. % V_2O_5 content. A further increase in V_2O_5 content increases the refractoriness. In the glasses containing 35 to 55 mol. % Na_2O, the values of the magnetic vanadium moment were generally within the limits 3.14 to 5.36 Bohr magnetous. When the Na_2O content is constant and the V_2O_5 content is increased at the expense of P_2O_5, the magnetic moment for vanadium is reduced. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Kafedra keramiki, stekla i emaley Novocherkasskogo politekhnicheskogo instituta (Department of Ceramics, Glass and Enamels, Novocherkassk Polytechnical Institute)

SUBMITTED: 24Nov61 DATE ACQ: 24Jul63 ENCL: 00

SUB CODE: CH, MA NO REF SOV: 006 OTHER: 002

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

S/032/62/028/008/013/014
B104/B102

AUTHORS: Azarov, K. P., and Gorbatenko, V. Ye.

TITLE: Instruments for measuring the thickness of coatings on a ferromagnetic base

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 8, 1962, 998 - 999

TEXT: The two instruments here described determine the thickness of coatings on ferromagnetic bases by reference to the attractive force which a permanent magnet (1)(Fig.1) exerts on the ferromagnetic material, this force being dependent on the intervening thickness. The magnet (1) is brought into contact with the surface to be tested and the rest of the instrument is then slowly pulled away. As the magnet remains stuck to the surface tube (2) is pulled out and the spring (3) inside it stretches until the tensile force overcomes the attraction of the magnet, separating the magnet from the surface. At the moment when this happens the position of the inner tube (2) against the outer tube (8) is arrested by (10) and the tensile force of the spring is read off. In the other instrument described, a watch spring performs the task of the spring (3) in the first

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

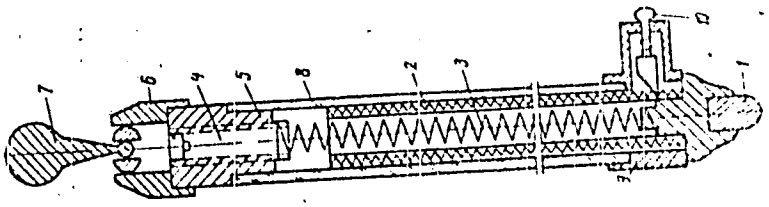
S/032/62/02.../008/013/014
B104/B102

Instruments for measuring ...

instrument. Coatings with thicknesses between 0.06 and 1.5 mm can be measured. There are 2 figures and 2 tables.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut im. S. Ordzhonikidze (Novocherkassk Polytechnic Institute imeni S. Ordzhonikidze)

Fig. 1. Thickness measuring instrument.



Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., doktor tekhn.nauk; MIKHALKOVICH, S.I., insh.

Generation of gas and expansion of clay during burning. Stroi. mat. 9 no.4:25-28 Ap '63. (MIRA 16:5)

(Clay--Testing)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

BUDNIKOV, P.P., akademik; AZAROV, K.P.; LYUTSEDARSKIY, V.A.; MIGONADZHIYEV, A.S.; OMEL'CHUK, L.N.

Separation of gases in the interaction of phosphate enamels with aluminum. Stek. i ker. 18 no.12:23-24 D '61. (MIRA 16:8)

1. Akademiya nauk UkrSSR (for Budnikov).
(Aluminum coating) (Phosphate coating)
(Gases in metals)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

KHERSHEL'MANN, V.[Herschelmann, F.]; BERG, A.; AZAROV, K.P., prof. [translator]

Determining the tendency of steel to form "fish scale" flaws in enamel. Stek. i ker. 20 no.6:40-42 Je '63. (MIRA 16:6)

1. Laboratoriya emaley, Shvartsenberg (Ertsgeberge), Germanskaya Demokraticheskaya Respublika.
(Enamel and enameling)
(Steel—Testing)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

BUDNIKOV, P.P.; AZAROV, K.P.; KESHISHYAN, T.N.

Crystallization of perlite-based glass. Ukr. khim. zhur. 29 no.11:1215-1219 '63. (MIRA 16:12)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; BALANDINA, V.V.

Study of the system $Na_2O - P_2O_5 - V_2O_5$ in the vitrous state.
Zhur. prikl. khim. 36 no.5:969-973 My '63. (MIRA 16:8)

1. Kafedra keramiki, stekla i emali Novocherkasskogo politekhnicheskogo instituta.
(Glass) (Vanadium oxides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; MIGONADZHIYEV, A.S.

Enameling aluminum alloys. Trudy NPI 154:27-32 '63.
(MIRA 17:10)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; MIKHALKOVICH, S.I.

Gas emanation during the swelling of clay. Trudy NPI 154:33-43 '63.
(MIRA 17:10)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; GONCHAROV, S.I.

Investigating the process of applying an enamel coating on surfaces of complex shape. Trudy NPI 154:45-52 '63.

(MIRA 17:10)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; DAVYDOVA, P.P.

Effect of preparing a metal surface on the quality of enamels without ground coating. Trudy NPI 154:53-61 '63.

(MIRA 17:10)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P.; GORBATENKO, V.Ye.

Calculation of thermoelastic stresses in the enamel - metal system. Trudy NPI 154:63-77 '63.

(MIRA 17:10)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K. P.; BALAWDINA, V. V.; LYUTSEDARSKIY, V. A.

"On the state of transition elements in glass structure."

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

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

L 21828-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWA(d)/EPR/EPA(w)-2/
EWP(t)/EPA(bb)-2/EWP(b) Pab-10/Pr-4/Ps-4/Pt-10/Pu-4 BSD/ASDM-3/AS(mp)-2/
AFETR JD/WW/WH

ACCESSION NR: AP5002932 S/0072/65/000/001/0033/0036

AUTHOR: Azarov, K. P. (Doctor of technical sciences) (Deceased); Grechanova, S. B. (Candidate of technical sciences); Shcherbak, T. I. (Engineer)

TITLE: Wetting and adhesion of ceramic coating of metals

SOURCE: Steklo i keramika, no. 1, 1965, 33-36

TOPIC TAGS: heat resistant metal coating, metal enamel, ceramic coating, frit, chromium sesquioxide, contact angle, enamel adhesion, ceramic coating adhesion

ABSTRACT: The purpose of this study was to determine the effect of wetting on the process of coating metals with glass-ceramic enamels, especially with those enamels containing Cr_2O_3, and on the adhesion of such coatings to metal. The wetting of two Ni-based alloys, I and II, and two nickel-chromium steels [unspecified] with various frits, such as alkali-free barium silicate frits with a low B_2O_3 content, titanoborosilicate frits, and a mixture of frits with Cr_2O_3, was investigated. Alloy I contained Cr, Ti, and Al, and alloy II con-

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ACCESSION NR: AP5002932

tained, in addition, Nb and Mo. The wetting at various temperatures was traced by means of a motion picture camera, and curves showing the dependence of the contact angles on temperature in various frit-to-metal combinations were obtained. The effect of the addition of MoO_3, CuO, CuO + Sb_2O_3, Sb_2O_3, WO_3, or Co_2O_3 as surfactants in one of the heat-resistant frits was tested. The results of the study indicated that the accuracy of readings depends on many side phenomena, such as crystallization, bloating, phase separation, oxidation of metal, and the melt interaction with the oxidized metal. However, since these phenomena also take place in the actual coating process, the data obtained in the study can be used for the evaluation of the relationship between the wetting and the adhesion. The experiments conducted indicated that the wetting depends both on the metal and frit. Low-melting frits wet the metal well, but they have poor adhesion. The addition of Cr_2O_3 to a heat-resistant frit improved the contact angle and facilitated the sintering and spreading on metal; an increase in Cr_2O_3 content in low-melting frits increased the contact angle and the strength of adhesion. The introduction of a surfactant improved the wetting and sintering, but did not change the

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L 21028-65

ACCESSION NR: AP5002932

adhesion. Other conditions being equal, high-melting and poorly wetting frits have a better adhesion to metals than low-melting frits. The poor adhesion of the low-melting frits seems to be caused by insufficient metal oxidation under a rapidly sintering coating, while a high-melting and slowly sintering coating provides a sufficient development of an oxide film, which promotes the adhesion. The phenomenon was confirmed experimentally. The index of wetting is not the basic factor controlling the adhesion. The diffusion of atoms was found to be an important factor in the development of the cohesive layer. It was noted that the strength of adhesion increases after prolonged service or after tests at high temperatures. The addition of small amounts of metal powders to the frits is suggested in order to distort the crystalline lattice of the coated metal by diffusion. Orig. art. has: 5 figures.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnical Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, MT

NO REF SOV: 003 OTHER: 002 ATD PRESS: 3166

Card 3/3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P. doktor tekhn. nauk [deceased]; LESKOV, A.I., inzh.

Effect of the composition of zirconium enamels on their properties. Stek. i ker. 21 no.7:35-37 Jl '64. (MIRA 17:10)

1. Novocherkasskiy politekhnicheskiy institut (for Azarov).
2. Nauchno-issledovatel'skiy institut sanitarnoy tekhniki (for Leskov).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., doktor tekhn.nauk [deceased]; [illegible], N.S., [illegible].

Resistance to abrasive wear of ceramic coatings on metals. Stek. i ker. 22 no.6:16-18 Je '65. (MIRA 18:6)

1. Novocherkasskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, K.P., doktor tekhn. nauk [deceased]; GRECHANOVA, S.B., kand. tekhn. nauk; SHCHERBAK, T.I., inzh.

Wetting and adhesion of ceramic coatings to metal. Stek. i ker. 22 no.1:33-36 Ja '65. (MIRA 18:7)

1. Novocherkasskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZATOVA, L.A., inzh.; RATNER, M.P., inzh.; SHEVCHENKO, V.A., inzh.

Reply to A.I. Maksimov's article "Economically expedient distribution of reserves in the electric power plants of the Donets Basin Elastic Power System using a compensation technique". Elek. sta. 35 no.12:77-78 D '64.

(MIRA 18:2)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

Azarov, L.G.

24(7) PHASE I BOOK EXPLOITATION SOV/1700

Lvov. Universitet

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

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

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

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

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

Card 2/31

Materials of the 10th All-Union Conference (Cont.) SOV/1700

Kuranov, A.A., and N.P. Ruksha. Spectral Method for the Analysis of Gold of High Purity by the Absolute Intensities of the Analytical Lines 421

Babintsev, B.D. Operating Experience of the Spectral Laboratory of the "Yuzhuralnikel'" Combine 422

Ginzburg, V.L. Spectrum Analysis of Cobalt 423

Vituzhkina, I.N. Spectrum Analysis of Nickel With the Aid of Cast Electrodes Under Spark Conditions of the DG-1 Generator 426

Yevlashin, L.S., and Ye.V. Koptsova. Some Practical Methods for the Spectrum Analysis of Bronze Containing Tin 429

Azarov, L.G., and T.V. Khasina. Spectrum Analysis of Al - Mn, Al - Cu, and Al - Be Hardeners 432

Tarsov, N.Ya., Ye.Ya. Zatolokin, and Ye.A. Bozhko. Spectral Method for the Determination of Natrium and Calcium Content in BK Babbitt 434

Card 24/31

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, N.I.

How we carry out Lenin's theory of the correlation of economics and politics in the present-day phase of the building of communism in the U.S.S.R. Trudy MAMI no.26:101-121 '60. (MIRA 15:2)
(Economics)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, S.A.; BRUSILOVSKIY, M.I.; ZHABOVSKIY, A.F.; GITMAN, E.S.

Modernization of the worm apparatus for peacemeal unloading of stiff leather. Kozh.-obuv.prom. 4 no.12:10-12 D '61.

(MIRA 16:1)

(Leather industry—Equipment and supplies)
(Loading and unloading)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, S.I.

Rod-cutting punch press with automatic feed. Mashinostroitel' no.1:8 Ja '60. (MIRA 13:4)
(Punching machinery)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, S.I.

Mechanism for the automatic feeding of upset wire and strip to the shearing die. Kuz.-shtam. proizv. 3 no. 2:44-47 F '61. (MIRA 14:1)

(Metalworking machinery)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, S.P.

Ways of reducing the cost of washing linen in communal laundries. Gor. khoz. Mosk. 30 no.8:27-30 Ag '56. (MLRA 9:10)

1. Nachal'nik planovogo otdela Moskovskogo gorodskogo tresta prachechnykh.

(Moscow--Laundries, Public)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, T.M.

CA

Performances of atmospheric pipe stills. T. M. AZAROV. *Neftyanoe Khozyaistvo* 22, 140-52(1932). The performance of American atmospheric pipe stills installed in Baku and Grozmii is analyzed.

A. A. BOEHTLINGK

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, T.M.

Utilize all possibilities to increase petroleum production. Neft.khoz. 34 no.7:1-5 Jl '56. (Petroleum industry) (MLRA 9:10)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROVA, V.

Let's organize the supply of equipment to enterprises. Sov. torg. 37 no.10:45-46 O '63. (MIRA 17:1)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, Vsevolod, voyennyy korrespondent

Two Baltic landings. Mor. sbor. 48 no.5:45-53 My '65.
(MIRA 18:6)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROV, Vsevolod Borislovich

[The return of happiness] Vozvrashchenie schast'ia. Moskva, Gos. izd-vo polit. lit-ry, 1961. 70 p. (MIRA 16:4)
(Filatov, Vladimir Petrovich, 1875-1956)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

DANILOV, Matvey Maksimovich; SUKHANOVA, Ye.Yu., kand. tekhn. nauk, retsenzent; AZAROV, V.N., st. prepod., retsenzent; LAZAREV, Ye.N., dots., retsenzent; AYRIYEVA, N.S., red.; VOLKOVA, V.G., tekhn. red.

[Commercial study of food products; meat and meat products] Tovarovedenie prodovol'stvennykh tovarov; miaso i miasnye tovary. Moskva, Izd-vo "Ekonomika," 1964. 230 p. (MIRA 17:3)

1. Nauchno-issledovatel'skiy institut torgovli i obshchestvennogo pitaniya (for Sukhanova). 2. Zaochnyy institut sovetskoy torgovli Ministerstva torgovli RSFSR (for Azarov). 3. Leningradskiy institut sovetskoy torgovli im. Fr.Engel'sa (for Lazarev).

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AZAROV, Vladimir Nikolayevich

[For the large-scale chemical industry] Za bol'shuiu khimiiu. Lugansk, Luganskoe obl. izd-vo, 1961. 27 p. (MIRA 17:9)

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KASATKIN, A.G.; LEKAYE, V.M.; YELKIN, L.N.; Prinimali uchastiye: BELYANSKIY, A.Z., laborant; AZAROV, Ya.I., mekhanik

Continuous thermal method of treating sulfur ores. Trudy [illegible] no.35:82-100 '61. (MIRA 14:10)

(Sulfur)
(Ore dressing)

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L 27808-65 EWT(d)/EEC(k)-2/EEC-4 Pq-4/Pq-4/Pg-4/Pk-4/Pl-4

ACCESSION NR: AP5001959 S/0286/65/000/002/0063/0064

36
B

AUTHORS: Azarov, Yu. K.; Dubrovin, E. D.

TITLE: Device for measuring and visually observing the curve of dielectric loss angle vs electric field frequency. Class 42, No. 167572

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 2, 1965, 63-64

TOPIC TAGS: dielectric loss

ABSTRACT: This Author Certificate presents a device for measuring and visually observing the curve of dielectric loss angle vs. electric field frequency consisting of a master part, measuring bridge circuit, two-channel amplifier with a phase detector, and a cathode ray display tube. To measure the phase shift, which is proportional to the dielectric loss angle, between the current flowing through the investigated sample and the voltage applied to it, a bridge circuit is installed with three standard arms. Identical mixers, filters, and limiters are placed in the bridge diagonal. At the limiter outputs is placed a phase detector whose output signal after amplification is displayed on the cathode ray tube (see Fig. 1 on the Enclosure). To measure the dielectric loss angle in a wide range of

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frequencies, three oscillators are installed, two of which are crystal-controlled and differ in frequency by the amount by which the phase shift measurement is made. The third sweep-frequency oscillator is synchronized with the horizontal sweep of the cathode ray tube and provides the change in frequency entering the bridge circuit in the required frequency range. To measure the phase shift, which is proportional to the dielectric loss angle, at a fixed frequency independent of the frequency at which measurement of the dielectric loss angle is made, mixers are installed in which the regulated frequencies are mixed with the sweep frequency. The filters separate the two sweep frequencies shifted by a fixed amount. One is fed to the measuring bridge circuit and the other to the mixers in the bridge diagonal. Orig. art. has: 1 diagram.

ASSOCIATION: none

SUBMITTED: 17Nov62 ENCL: 01 SUB CODE: EC, EM

NO REF SOV: 000 OTHER: 000

Card 2/3

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SONOVA, A.G.; GERASYUK, L.G.; AFANAS'YEVA, M.K.; SILAKOVA, Ye.Ya.; AZAROVA, A.G.; ALANIYA, I.I.; KOSAREVA, A.V.; SOLOV'EVA, A.V.; ERASNOVA, N.V.

Problem of endemic rat typhus on the Black Sea coast. Zhur. mikrobiol.epid.i immun. 31 no.2:51-56 F '60. (MIRA 13:6)

1. Iz Rostovskogo-na-Donu nauchno-issledovatel'skogo instituta Ministerstva zdravookhraneniya SSSR i portovych protivochumnykh laboratoriy v Odesse, Batumi i Novorossiyske.
(TYPHUS MURINE epidemiol.)
(TYPHUS veterinary)
(RATS diseases)

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KOGAN, M.I.; AZAROVA, A.Kh.

Isolation and analysis of vegetable oil fractions enriched with tocopherols obtained by molecular distillation. Trudy VNIVI 6: 64-74 '59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Fiziko-tekhnologicheskaya laboratoriya.
(OILS AND FATS)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

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AZAROVA, A. M.

Azarova, A. M. "Chlorides in the blood and urine in croupous inflammation of the lungs", Vracheb. delo, 1948 , No. 12, paragraphs 1073-76.

SO: U-3042, 11 March 53, (Le opis 'zhurnal 'nykh Statey, No. 10, 1949).

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AZAROVA, A.M., kand.med.nauk

Role of the spleen in blood deposition activity in circulatory insufficiency. Terap.arkh. 32 no.10:64-71 '60. (MIRA 14:1)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. S.Ya. Shteynberg) lechebnogo fakul'teta Khar'kovskogo meditsinskogo instituta.
(SPLEEN) (HEART FAILURE)

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PERESADA, Viktor Petrovich; VORONTSOV, A.Ye., retsenzent; PER, B.A., retsenzent; PANFILOV, V.G., retsenzent; BRENEV, I.V., otv. red.; AZAROVA, I.G., red.; FRUMIN, P.S., tekhn. red.

[Radar detection of marine objects] Radiolokatsionnaia vidimost' morskikh ob"ektov. Leningrad, Gos.soiuznoe izd-vo sudostroit. promyshl., 1961. 158 p. (MIRA 14:12)

(Radar)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

PAVLOV, Vsevolod Aleksandrovich; RIVKIN, S.S., doktor tekhn. nauk, retsenzent; BUTENIN, N.V., doktor tekhn. nauk, retsenzent; PONYRKO, S.A., nauchnyy red.; AZAROVA, I.G., red.; TSAL, R.K., tekhn. red.

[The gyroscopic effect, its manifestations and applications] Giroskopicheskii effekt, ego proiavleniia i ispol'zovanie. Leningrad, Gos. soiuznoe izd-vo sudostroit. promyshl., 1961. 163 p. (MIRA 15:2)

(Gyroscope)

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VLASOV, Valerian Ivanovich; BERMAN, Yakov Isaakovich; KISLOV, A.G., kand. tekhn. nauk, retsenzent; PORTNOY, S.I., otv. red.; AZAROVA, I.G., red.; TSAL, R.K., tekhn. red.

[Design of the high-frequency units of radar stations] Proektirovanie vysokochastotnykh uzlov radiolokatsionnykh stantsii. Leningrad, Gos.soiuznoe izd-vo sudostroit. promyshl., 1961. 356 p. (MIRA 15:2)

(Radar) (Microwaves)

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НОВИКОВ, А. В.

NOVIKOV, A.V.; GANINA, A.Z.; ONEGINA, A.K.; STULOVA, M.V.; AZAROVA, L.A.; DAN'KOVA, M.N.; OPOLCHENTSEVA, T.D.; SHIBAYEV, D.P.; ~~ZHABTKO, Ye.G.~~; MINKINA, A.G.; OVSYANKINA, Ye.I.; SAVENKOV, F.S., red.; SLEMZIN, A.A., red.; FOMICHEV, P.M., tekhn.red.

[Economy of Kaluga Province; collected statistics] Narodnoe khoziaistvo Kaluzhskoi oblasti; statisticheskii sbornik. Moskva, Gos.stat. izd-vo, 1957. 142 p. (MIRA 11:6)

1. Kaluzhskaya oblast', Statisticheskoye upravlenie. 2. Statisticheskoye upravleniye Kaluzhskoy oblasti (for all except Savenkov, Slemzin, Fomichev) 2. Nachal'nik Statisticheskogo upravleniya Kaluzhskoy oblasti (for Savenkov)
(Kaluga Province--Economic conditions--Statistics)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102720006-3

AZAROVA, Mariya Maksimovna; SUPONITSKIY, S.A., red.; SATIROVA, O.A., red. izd-va; YERMAKOV, M.S., tekhn. red.

[Capital and surplus value] Kapital i pribavochnaia stoimost'; lektsii po kursu politicheskoi ekonomii. [Moskva] Izd-vo Mosk. univ., 1958. 62 p. (MIRA 11:7)

(Capital) (Profit) (Labor economics)

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AZAROVA, M.M., dotsent, kand.ekon.nauk; BAUTINA, N.V., dotsent, kand.ekon. nauk; DOBRUSHIN, I.M., kand.ekon.nauk; KOZODOYEV, I.I., doktor ekonom.nauk, red.; GARSIA, L., red.; ASTAKHOV, V., red.; PROKOP'YEV, S., red.; CHEPELEVA, O., tekhn.red.

[Reader in political economy] Khrestomatiia po politicheskoi ekonomii. Moskva, Izd-vo sotsial'no-ekon.lit-ry, 1960. 759 p. (MIRA 13:12)

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AZAROVA, M.M., kand. ekon. nauk, dots.; BAUTINA, N.V., kand. ekon. nauk, dots.; DOBRUSHIN, I.M., kand. ekon. nauk; MAKHON'KO, T.P., kand. ekon. nauk, dots.; TOLYPIN, Yu.M., kand. ekon. nauk, dots.; KOZODOYEV, I.I., doktor ekon.nauk, prof., red.; GARSIA, L., red.; MITINA, M., red.; DARONYAN, M., mladshiy red.; KRYLOVA, I., mladshiy red.; NOGINA, N., tekhn. red.

[Chrestomathy in economics] Khrestomatiia po politicheskoi ekonomii. 2., perer. i dop. izd. Moskva, Sotsekgiz, 1963. 798 p. (MIRA 16:4)

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Potential antimetabolites. Part 16: Reaction of citrulline with cyanoacetate. Zhur. ob. khim. 35 no.3:563-570 Mr '65. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet.

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