

AM4037186

BOOK EXPLOITATION

S/

Azarov, A. S. (Candidate of Technical Sciences, Docent)

Mechanization and automation of engineering processes in machine building
(Mekhanizatsiya i avtomatizatsiya tekhnologicheskikh protsessov v mashinostroyen-
ii), Moscow, Mashgiz, 1963, 444 p. illus., biblio. 13,500 copies printed.

TOPIC TAGS: mechanization, automation, machine building, machining

PURPOSE AND COVERAGE: The book presents materials on domestic and foreign exper-
ience in mechanization and automation of engineering processes in machine building
(mainly in machining) and considers the basic directions of their development. It
gives calculation of the economic effectiveness of mechanization and automation,
the design of automatic loaders and certain elements and assemblies used in mechani-
zation and automation. A great deal of attention is given to a consideration of
mechanized and automated assemblies for machining parts on general purpose stands
(including programmed control), rational adjustment, a description of the design
of adjustment-free tools and automatic adjustment. The problems of complex auto-
mation associated with the machining of parts on aggregate stand and automatic
lines are examined. The book gives calculations, the results of experimental re-
search, and materials of a handbook nature.

Card 1/3

AM4037186

The book is intended for engineers and technicians and can be used by students of higher and secondary technical education institutions.

TABLE OF CONTENTS [abridged]:

- Introduction -- 3
- Ch. I. Progressive engineering processes and the directions of work in the field of mechanization and automation -- 7
- Ch. II. Automatic loaders -- 23
- Ch. III. Bunker loaders and accessories -- 68
- Ch. IV. Equipment for mechanizing and automating a stand, the fastening and removal of work pieces; control and servicing of stands -- 121
- Ch. V. Elements and assemblies for mechanization and automation -- 157
- Ch. VI. Classification of mechanized and automated assemblies. Tuning and automatic adjustment of stands -- 179
- Ch. VII. Automation of machining on all-purpose stands by using program control -- 185
- Ch. VIII. Mechanizing and automating devices for lathes -- 204

Card 2/3

AM4037186

- Ch. IX. Mechanization and automation of machining on revolver lathes -- 229
- Ch. X. Mechanization and automation of machining on multi-cutter and carousel stands -- 252
- Ch. XI. Mechanization and automation of machining on drilling and boring stands -- 278
- Ch. XII. Mechanization and automation of machining on planing and milling stands -- 308
- Ch. XIII. Mechanization and automation of machining on grinding and tooth-cutting stands -- 329
- Ch. XIV. Automation of machining on aggregate stands -- 348
- Ch. XV. Machining on automatic lines -- 382
- Bibliography -- 410

SUB CODE: MD

SUBMITTED: 17Oct63

NR REF SOV: 082

OTHER: 024

DATE ACQ: 16Apr64

Card 3/3

BAKUN, V.A.; BUDINSKIY, A.A.; AZAROV, A.S., kand. tekhn. nauk, dots.
re'tsenzent'

[Automatic control of machine tools] Avtomaticheskoe uprav-
lenie metallorozhushchikh stankov. Izd.2., perer. i dop.
Moskva, Mashinostroenie, 1964. 343 p. (MIRA 17:10)

L 9836-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(i) JD

ACC NR: AT5028810 SOURCE CODE: UR/2553/65/000/250/0017/0021

AUTHOR: Azarov, A. S. (Candidate of technical sciences, Docent); Nikitkov, N.

ORG: Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut)

TITLE: Means of perfecting the control of the diameters of large rollers in the process of turning

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 250, 1965. Avtomatizatsiya i tekhnologiya mashinostroyeniya (Automation and technology of machinery manufacture), 17-21

TOPIC TAGS: quality control, metalworking, metal turning, mechanical engineering;

ABSTRACT: The article discusses several methods of controlling the diameters of large rollers in the process of turning. Both semiautomatic and automatic control methods are considered. It is noted that active control of the diameters of large rollers has not yet been fully developed and is not being applied at present; it is, however, considered the most important method in the future operations of heavy machinery building plants. It requires intensive work in the search for means and ways of achieving it, followed by theoretical and experimental verification of the more rational of the possible design alternatives. Studies in this direction, primarily employing the method of a roller with automatic adjustment of

Card 1/2

L 9836-66

ACC NR: AT5028810

the tool-device-piece-instrument system, are being conducted at the Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut) by the authors of the present article. Orig. art. has: 3 figures.

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

Card

mj
2/2

AROYAN, A.A.; AZARYAN, A.S.; IRADYAN, M.A.

Quinoline derivatives. Part 4: Reactions of 1,2,3,4-tetrahydro-
quinoline. Izv. AN Arm.SSR. Khim.nauki 18 no.1:76-82 '65.

(MIRA 18:5)

1. Institut tonkey organicheskoy khimii AN Armyanskoy SSR.

ALEKSEYEV, V.V.; DOBRONRAVOVA, A.O.; AZAROV, A.Ya.; MASLENNIKOV, I.Ya.;
RUDNEV, L.M., retsenzent; KHOREV, B.S., retsenzent; KRISHTAL',
L.I., red.; USENKO, L.A., tekhn. red.

[Moscow - Chop; railroad guide] Moskva - Chop; zheleznodorozhnyi
putevoditel'. Moskva, Transzheldorizdat, 1962. 150 p.

(MIRA 15:12)

(Railroads—Guides)

AZAROV, B.

Photographic creativity. Sov.foto 18 no.10:25-32 0 '58.
(Photography) (MIRA 11:11)

AZAROV, B.

In shops without flash lamps. Sov.foto 19 no.3:37-40 M_r '59.
(MIRA 12:4)

(Photography)

AZAROV, B.

Seminar on photography; technological armory of photography. IUn.-
tekh. 7 no.9:49-56 '8 '62. (MIRA 16:6)
(Photography)

AZAROV, B.

I take pictures with the "Leningrad" camera. Sov.foto 20 no.4:39
Ap '60. (MIRA 13:8)

(Cameras)

AZAROV, B.

Artistic possibilities of the "Kiev-Vega" camera. Sov.foto.
23 no.2822-34 P '63. (MIRA 16:4)

(Cameras)

L 57488-65 EWP(b)/EWA(b)-2/EWT(m)/EPP(c)/EWP(1)/EWA(d)/EWP(v)/EPR/EPA(w)-2/
 EWP(1)/EWP(z)/EPA(bl)-2/EWP(z)/EWP(b) P-4/P-4/P-4/P-7/Pab-10 RM/MJ/
 ACCESSION NR: AP0015703 WM/MJM/JD UR/0072/65/000/006/0015/0018
 616.293

AUTHOR: Azarov, D.P. (Doctor of technical sciences, Deceased); Demchenko, N.S.
 (Engineer)

TITLE: Abrasive resistance of ceramic coating on metals

SOURCE: Steklo i keramika, no. 6, 1965, 16-18

TOPIC TAGS: wear resistance, ceramic coating, steel, abrasive wear, refractory additive, titanium dioxide, chromic oxide

ABSTRACT: The article is devoted to determining the relationship between the wear resistance and solubility of refractory additives to the vitreous component of ceramic coatings, and to determining the influence on the wear resistance of the amount and properties of the insoluble refractory additives present in the coatings. The solubility of the additives was obtained from changes in the refractive index of the vitreous component; insoluble additives were determined by an x-ray diffraction technique. The ceramic coatings were deposited on Kh23N18 steel, and the additives used were TiO₂ and Cr₂O₃. It was found that the wear resistance of the coatings increases in direct proportion to the amount of undissolved particles of the refractory additive present therein, and the harder the undissolved particles, the greater the wear resistance. The latter also increases with the solubility of the additive, and, as shown by x-ray

Cord 1/2

L 57488-65

ACCESSION NR: A175015763

diffraction data, is largely unaffected by the orientation of the particles of the additive. "The instrument for measuring wear resistance was developed in the laboratory of the Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute) by S. I. Goncharov, V.N. Krolikov and I.P. Chizhov." Orig. art. has: 7 figures.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute)

SUBMITTED: 00

SUB CODE: MT

INCL: 00

NO REF SOV: 003

OTHER: 003

slip
2/2
Card

AZAROV, B. V.

Nov 52

USSR/Metallurgy - Welding, Methods

"Semiautomatic Spot Welding of Fillet Joints With a Portable Welder," B. V. Azarov and Engr V. Ye. Litvinov

AvtoGen Delo, No 11, pp 28-29

Describes method used in production for welding stiffening ribs of tee or bulb sections to sheet metal 2-4 mm thick. Joining is realized by row of welded points, spacing of which may be calculated by formula. Method, in comparison with manual intermittent welding, showed double productivity and considerable decrease in deformations of constructions.

266T54

AZAROV, B.V., inshener; POGORETSKIY, A.V., inshener.

Apparatus for the automatic welding of angular seams, type
ASV-138. Vest.mash.34 no.1:77-79 Ja '54. (MLRA 7:2)
(Electric welding)

AZAROV, B.V.

AZAROV, B.V., inzhener; KIPNIS, I.S., inzhener

Brazing cast iron without preheating. Vest.mash.35 no.7:43-44
Jl'55. (MLRA 8:10)

(Cast iron--Welding) (Brazing)

DOLITSKIY, Naum Il'ich, kand. tekhn. nauk; SOMINSKIY, V.S., kand. tekhn. nauk,
nauchnyy red.; AZAROV, E.K., red.; ONOSHKO, N.G., tekhn. red.

[Plan of the organizational and technical activities of a machinery
enterprise] Plan organizatsionno-tekhnicheskikh meropriatii mashino-
stroitel'nogo predpriatiia. Leningrad, Lenizdat, 1959. 175 p.
(MIRA 14:12)

(Machinery industry)

25(1)

SOV/135-59-5-19/21

AUTHOR: Azarov, B. V., Engineer

TITLE: The Organization of the Central Welding Laboratory in the Kaliningrad Sovnarkhoz

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 5, pp 45-46 (USSR)

ABSTRACT: To coordinate efforts towards raising the general standard of welding technique the Kaliningrad Council of National Economy (Sovnarkhoz) has decided to organize a Central Welding Laboratory of the Sovnarkhoz based on one of the plants having the highest level of welding. A "Combined Plan for the Development of Welding Technique in 1959-1965" has been submitted to the Gosplan of the RSFSR. According to this plan the following measures will be taken. Mechanization of welding in the shipbuilding industry is to rise from 56% in 1958 to 85% in 1965 and in machine building as a whole from 48 to 68%. Mechanized gas-electric welding in carbon-dioxide, argon and helium is to be widely developed. A section for centralized repair of parts of ships, tractors etc. is to be organized on the base of the "Stroydormash"

Card 1/2

SOV/135-59-5-19/21

The Organization of the Central Welding Laboratory in the Kaliningrad
Sovnarkhoz

plant. Electric slag welding equipment is to be installed at the "Soyuzbummash" plant for making large cast and forged structures. The "Elektrosvarka" plant now under construction in Kaliningrad will help to implement the decisions contained in the plan. A section for centralized production of spare parts for welding equipment is to be organized at this plant.

Card 2/2

DOVETOV, Igor' Shikhmurzayevich, kand. ekon. nauk; AZAROV, E.K., red.;
GROSHKO, N.G., tekhn. red.

[Supplying industrial enterprises with materials and equipment]
Material'no-tekhnicheskoe snabzhenie promyshlennykh predpriatii.
Lenizdat, 1959. 83 p. (MIRA 12:10)
(Industrial procurement)

TIKHONOV-BUDROV, Yevgeniy Dmitriyevich; AIIAROV, E.K., red.; TIKHONOVA,
I.M., tekhn.red.

[The seven great years] 7 velikikh let. Leningrad, Lenizdat,
1959. 114 p. (MIRA 12:12)
(Russia--Economic policy)

TIKHONOV, Ivan Artem'yevich; ALIKSEYEV, A.M., red.; AZAROV, E.K.,
red.; LEVONEVSKAYA, L.G., tekhn.red.

[The basic economic problem of the U.S.S.R.; methodological
problems.] Osnovnaia ekonomicheskai zadacha SSSR; voprosy
metologii. Leningrad, Lenizdat, 1959. 394 p. (MIRA 12:9)
(Russia--Economic policy)

PIGAKIN, N.N.; PLINER, M.D.; POLOZOV, V.R.; RYASHCHENKO, B.R.; AZAROV,
E.K., red.; SHKEMUSHENKO, T.A., tekhn.red.

[Planning perspectives for training personnel in an industrial
enterprise] Perspektivnoe planirovanie podgotovki kadrov pro-
myshlennogo predpriatia. Leningrad, Lenizdat, 1960. 38 p.
(MIRA 13:7)

(Leningrad--Machinery industry)

(Employees, Training of)

VOYTOLOVSKIY, Viktor Nikolayevich; MAZALOV, Yevgeniy Vasil'yevich;
ZAIROV, E.K., red.; LEVONEVSKAYA, L.G., tekhn.red.

[Leningrad industry in the seven-year plan] Leningradskaia
promyshlennost' v semiletke. Leningrad, Lenizdat, 1960. 42 p.
(MIRA 14:3)

(Leningrad Economic Region--Industries)
(Leningrad Economic Region--Economic policy)

ELYAKHMAN, Leonid Solomonovich; AZAROV, E.K., red.; SHERMUSHENKO, T.A.,
tekhn.red.

[Why the rate of labor productivity must overtake the rate of
wage increase] Pochemu rost proizvoditel'nosti truda dolzhen
operezhnat' rost zarabotnoi platy. Leningrad, Lenizdat, 1960.
42 p. (MIRA 13:7)

(Labor productivity)

(Wages)

GRUNKIN, Mikhail Nikolayevich; AZAROV, E.K., red.; LEVONIEVSKAYA, L.O.,
tekh.n.red.

[Plan of our enterprise] Plan nashogo predpriatia. Leningrad,
Lenizdat, 1960. 44 p. (MIRA 1413)
(Industrial management) (Russia--Economic policy)

KAGANOV, Yefim Davydovich; AZAROV, E.K., red.; LEVONEVSKAYA, L.G.,
tekh.nod.

[National income of the U.S.S.R.] Natsional'nyi dokhod SSSR.
Leningrad, Lenizdat, 1960. 45 p. (MIRA 14:3)
(Income)

AZIROV, Eduard Konstantinovich; KUZHELEV, N.S., red.; ONOSKO, N.G.,
tekhn.red.

[Rhythm in the work of an enterprise] Ritmichnost' v rabote
predpriatiia. Leningrad, Lenizdat, 1960. 54 p.

(MIRA 14:3)

(Industrial management)

SOCHILIN, B.G.; BLYUKHMAN, L.S.; YERONENKOVA, Ye.I.; AZAROV, E.K.,
red.; SHERMUSHENKO, T.A., tekhn.red.

[Transition of Leningrad enterprises to a shorter workday]
Opyt perekhoda leningradskikh predpriatii na sokrashchennyi
rabochii den'. Leningrad, Lenizdat, 1960. 69 p. (MIRA 13:7)
(Leningrad--Hours of labor)

LARIONOV, K.A., prof.; KADACHIGOV, V.M., prof.; KUZHEL'EV, N.S., dotsent;
LOPUKHOV, L.S., dotsent; TIKHONOV, I.A., prof.; TSAPKIN, N.V.,
dotsent; CHESNOKOV, P.A., dotsent. V redaktirovani priginal
uchastnye BOYKOV, S.I. AZAROV, E.K., red.; LEVONEVSKAYA, L.G.,
tekh.n.red.

[Political economy; textbook for students of economic theory]
Politicheskaya ekonomiya; posobie v pomoshch' izuchaiushchim
voprosy ekonomicheskoi teorii. Leningrad, Lenizdat, 1960.
362 p.

(Economics)

(MIRA 13:7)

LAVRIKOV, Yuriy Aleksandrovich, kand.ekonom.nauk; MAZALOV, Yevgeniy
Vasil'yevich, kand.ekonom.nauk; AZANOV, E.K., red.; PITKIN,
L.M., red.; LEVONEVSKAYA, I.G., tekhn.red.

[Leningrad industry and its potentials] Leningradskaia pro-
myshlennost' i ee rezervy. Leningrad, Lenizdat, 1960. 155 p.
(MIRA 13:12)

(Leningrad--Industries)

GURIN, Lev Yevseyevich; AZAROV, E.K., red.; ONOSHKO, N.G., tekhn.red.

[New developments in the organization of wages] Novoe v organizatsii zarabotnoi platy. Leningrad, Lenizdat, 1960. 44 p.
(MIRA 14:4)

(Wage payment systems)

GRUNKIN, Mikhail Nikolayevich; AZAROV, B.K., red.; SHERMUSHENKO, T.A.,
tekhn. red.

[Administration of a socialist enterprise] Upravlenie so-
tsialisticheskimi predpriyatiyami. Leningrad, Lenizdat, 1960.
48 p.

(Industrial management)

(MIRA 14:5)

ROTSHTEYN, Aleksandr Isaakovich, prof.; AZAROV, E.K., red.; LEVONEV-
SKAYA, L.G., tekhn. red.

[What is the production fund of an enterprise] Chto takoe
proizvodstvennye fondy predpriatiia. Leningrad, Lenizdat,
1960. 48 p.

(MIRA 14:5)

(Capital)

VOYTOLOVSKIY, Viktor Nikolayevich; ZVEREV, Leonid Grigor'yevich;
AZAROV, E.K., red.; PRESNOVA, V.A., tekhn. red.

[Profit of an industrial enterprise] Rentabel'nost' pro-
myshlennogo predpriatia. Leningrad, Lenizdat, 1961. 28 p.
(MIRA 15:2)
(Leningrad--Industrial management) (Finance)

RAUD, Vyacheslav Mikhaylovich; AZAROV, E.K., red.; LEVONEVSKAYA, L.G.,
tekh., red.

[Organization of work in an enterprise] Organizatsiia truda na pred-
priatii. Leningrad, Lenizdat, 1961. 38 p. (MIRA 14:9)
(Leningrad Economic Region—Industrial organization)
(Labor productivity)

PCOPOV, Grigoriy Makarovich; AZAROV, E.K., red.; TIKHONOVA, I.M.,
tekh. red.

[Socialist labor discipline] O sotsialisticheskoi distsipline
truda. Leningrad, Lenizdat, 1961. 50 p. (MIRA 15:1)
(Leningrad--Labor discipline)

. VOYTOLOVSKIY, Viktor Nikolayevich; AZAROV, E.K., red.; ONOSHKO, N.G.,
tekh. red.

[Material and technical foundation of communism] Material'no-
tekhnicheskaya baza kommunizma. Leningrad, Lenizdat, 1962. 65 p.
(MIRA 15:5)

(Russia--Industries)

TYUL'PANOV, Sergey Ivanovich, prof.; ONUSHKIN, Viktor Grigor'yevich,
dots.; AZAROV, E.K., red.; TIKHONOVA, I.M., tekhn. red.

[Crisis of world capitalism]Krizis mirovogo kapitalizma. Le-
ningrad, Lenizdat, 1962. 281 p. (MIRA 15:9)
(Capitalism)

MAZALOV, Ye.V.; LAVRIKOV, Yu.A.; KUZNETSOV, A.P.; VELIKANOV, A.Ya.,
kand. ist. nauk, starshly nauchnyy sotr., nauchnyy red.;
AZAROV, E.K., red.; LEVONEVSKAYA, L.G., tekhn. red.

[On the road to technological progress, from the work
experience of the Leningrad party organization, 1951-1961]
Na putiakh tekhnicheskogo progressa; iz opyta raboty Lenin-
gradskoi partiinoi organizatsii, 1951-1961 gg. [By] E.V. Mazolov,
i dr. Leningrad, Lenizdat, 1962. 480 p. (MIRA 16:2)

1. Leningrad. Institut istorii partii. 2. Institut istorii
partii pri Leningradskom oblastnom komitete Kommunisticheskoy
partii Sovetskogo Soyuza (for Velikanov).
(Leningrad Province--Industrial management)
(Communist Party of the Soviet Union--Party work)

GURIN, Lev Yevseyevich; AZAROV, E.K., red.; TIKHONOVA, I.M.,
tekhn. red.

[Ways to reduce losses in working time] Puti sokrashchenia
poter' rabochego vremeni. Leningrad, Lenizdat, 1963. 63 p.
(MIRA 17:3)

USSR / Farm Animals. Cattle. Q

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 21219

Author : Azarov, G. S.

Inst : Not given

Title : Some Biological Properties of Buryat-Mongolian Cattle
and of Its Hybrids with Simmenthal CattleOrig Pub : V sh.: Materialy po nauch. proizvodit. sil Buryat-
Mong. ASSR. Vyp. 3, Ulan-Ude, 1957, 419-453

Abstract : The average height at the withers is 107.5 cm; the average live weight, 260 kg. This cattle displays good mobility at pasture, possesses a strong constitution and good health, and becomes rapidly fattened during the summer fattening period. In the majority of cows fertilization occurs at the time when winter is terminating and in spring, when the animals are in the worst condition. The cattle develops well and is

Card 1/3

31

USSR / Farm Animals. Cattle. Q

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 21219

relatively indiscriminating towards food. The beginnings of improving local cattle by Simmenthal breed cattle go back to the 20's in this century. The average weight of the cows increased by almost 1.5 times during this time; their production became considerably higher, reaching on the average 2.5 - 3000 liters per forage cow annually on farms where the animals were well fed. Some biological properties of local and Simmenthal hybridized cattle were investigated; the quality of the skin and of the hair's cover, the nature of the hair's growth, lactation curves, body build, the length of the growth period, the development of digestive organs, accumulation of subcutaneous and intermuscular fat, as well as fat deposits in inner organs; distribution of tissue in carcasses and the nature of individual carcasses; the chemical composition of carcasses and its

Card 2/3

AVER'YANOV, I.Ya., kand.sel'skokhozyaystvennykh nauk; AZAROV, G.S.

Feeding calves by the group method in the whole milk zone.

Zhivotnovodstvo 21 no.2:17-22 F '59.

(MIRA 12:3)

1. Nauchno-issledovatel'skiy institut Zemel'deliya TSentral'nykh rayonov nechernozemnoy polosy.

(Claves)

AZAROV, G.S.

A farm for nursing cows and suckling calves. Zhivotnovodstvo 21
no.3:63 Mr '59. (MIRA 12:4)
(Stables)

AZAROV, G.S.

Diethylstilbestrol as a substance stimulating the production of
beef. Zhivotnovodstvo 21 no.5:58-61 My '59. (MIRA 12:7)

1. Nauchno-issledovatel'skiy institut zemledeliya tsentral'nykh
rayonov nechernozemnoy polosy.
(Stilbestrol)

(Beef cattle--Feeding and feeding stuffs)

AVER'YANOV, Ivan Yakovlevich, kand.sel'skokhoz.nauk; AZAROV, Georgiy
Semenovich; DOBYCHINA, I.N., red.; DEYEVA, V.M., tekhn.red.;
TRUKHINA, O.N., tekhn.red.

[Practice of having one cow feed several calves] Vyreshchivanie
teliat metodom gruppovogo podrosa. Moskva, Gos.izd-vo sel'khoz.
lit-ry, 1960. 56 p. (MIRA 14:2)
(Calves--Feeding and feeds)

IL'BITENKO, K.I., starshiy nauchnyy sotrudnik; AZAROV, G.S., podpolkovnik,
red.

Sergei Georgievich Lazo. Moskva, 1960. 19 p.

(MIRA 14:2)

1. Moscow. TSentral'nyy muzey Sovetskoy Armii. 2. TSentral'-
nyy muzey Sovetskoy Armii (for Il'bitenko).
(Lazo, Sergei Georgievich, 1894-1920)

AZAROV, G.S.

Practical conclusions from the experiment in raising dam-suckled calves. Zhivotnovodstvo 22 no.7:73-77 '60.

(MIRA 16:5)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva tsentral'nykh rayonov Nechernozemnoy polosy.
(Calves—Feeding and feeds) (Milk as feed)

BEGUCHEV, A.P., kand. sel'khoz. nauk; TYUPICH, M.M., kand. biol.
nauk; KONDYREV, V.Ye., kand. sel'khoz. nauk; AZAROV, G.S.;
FEDOTOV, V.G., red.; SAYTANIDI, L.D., tekhn. red.

[Modern methods in reproducing cattle stock] Peredovoi opyt
vospriczivodstva stada krupnogo rogovogo skota. Moskva, Izd-
vo M-va sel'.khoz.RSFSR, 1963. 114 p. (MIR 16:6)
(Cattle breeding)

AUTHORS: Goncharov, I.N., Candidate of Technical Sciences, Docent, SOV/122-58-6-17/37
Azarov, I.A. and Dorofeyev, Yu.G., Engineers

TITLE: Economic Utilisation of Metal Swarf (Ratsional'noye ispol'zovaniye metallicheskoj struzhki)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 6, pp 46-49 (USSR)

ABSTRACT: The use of briquetted swarf as a charge for metal-melting furnaces is the most economic utilisation. Briquetting on the premises is worth while when 10 tons/day of swarf or more are available. Compacting presses to achieve a density of 2 kg/litre cannot produce a form suitable for melting economically. Hot pressing and stamping to a density exceeding 5 kg/litre produces briquettes suitable for open-hearth furnaces as well as electric furnaces and cupolas. An installation as developed at the Novo-Cherkasskiy politekhnicheskij institut (Novocherkassk Polytechnical Institute) "imeni S. Ordzhonikidze" and finally constructed at the Bataysk Metallurgical Plant is illustrated in lay-out. It consists of loading, storage and transport facilities to pass the swarf through a rotary furnace and to compact it hot under the briquetting hammer. The swarf is heated to about 900 °C and emerges from the furnace as a continuous "rope" cut into sections

Card1/2

Economic Utilisation of Metal Swarf

SOV/122-58-6-17/37

by a rotating friction disc saw. Other installations for hot briquetting (but using shaft furnaces) have been projected for use at the Taganrog Metallurgical Plant. Compacting into usable steel by forge welding producing a structure characteristic of oriental sword-making is briefly mentioned. High-speed steel swarf can be briquetted and forged into cutting tools of unimpaired performance. It is stated that a plant producing 5 t/h can earn 5 million roubles/annum. There are 4 figures.

Card 2/2 1. Steel--Processing 2. Steel--Production

AZAROV, I. G., agronom po zashchite rasteniy (Dobrushskiy rayon,
Gomel'skoy oblasti)

They became convinced of the advantages of plant protection.
Zashch. rast. ot vred. i bol. 5 no.11:11-12 N '60.
(MIRA 16:1)

(Dobrush District—Plants, Protection of)

U
A
C
E
L
L
I
N
G
S
A
N
D
I
N
T
E
R
S
P
A
C
E
S
A
N
D
T
I
M
E
S
I
N
T
E
R
S
P
A
C
E
S
A
N
D
T
I
M
E
S

PROCESSING AND PROPERTIES INDEX

Horizontal drawing of glass tubes. A. A. NALDA, I. I. AZAROV,
AND T. V. NIKANOROVA. *Steklo i Keram.*, 6 [10] 10-11 (1949)
Illustrated details of an installation which is joined to the firing
section of the furnace are given. The output is 4 to 4.5 tons per
day
U Z K

ASB-31.4 METALLURGICAL LITERATURE CLASSIFICATION

U
A
C
E
L
L
I
N
G
S
A
N
D
I
N
T
E
R
S
P
A
C
E
S
A
N
D
T
I
M
E
S
I
N
T
E
R
S
P
A
C
E
S
A
N
D
T
I
M
E
S

AZAROV, I.I., vice-admiral zprava

They have fulfilled their duty. Mor. sbor. 48 no.4834-37
Ap '65. (MIRA 1886)

AZAROV, I. V. -- "Briqueting of Chlorinated Small Wood Waste Products for Use as Fuel."
Latvian Agricultural Academy, 1950 (Dissertation for the Degree of Candidate of
Technical Sciences)

SO: Izvestiya Ak. Nauk Latvyskoy SSR, No. 9, Sept., 1955

AZAROV, Ivan Vasil'yevich, kand.tekhn.nauk, преподаvatel'; SOKOLOVA, Vera Alekseyevna, преподаvatel'; OSIPOV, M.I., red.; BYKOVA, Zh.A., red.; DORODNOVA, L.A., tekhn.red.

[Equipment of special workshops for the training of mahogany cabinetmakers] Oborudovanie uchebnykh kabinetov po spetsial'noi tekhnologii dlia podgotovki stoliarov-krasnoderevtsev. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1960. 43 p.

(MIRA 14:1)

1. Khudozhestvennoye remeslennoye uchilishche No.17 g. Rigi (for Azarov, Sokolova).
(Cabinetwork--Study and teaching) (Woodworking machinery)

AZAROV, Konstantin Georgiyevich, polkovnik; DUKACHEV, M.P., polkovnik, red.;
SLEPT'SOVA, Ye.N., tekhn. red.

[Morning physical exercises (setting-up exercises) in the Soviet
Army] Utrennie fizicheskie uprazhneniia (zariadka) v Sovetskoi Armii.
Izd.2., perer. i dop. Moskva, Voen. izd-vo M-va obor. SSSR, 1961.
157 p. (MIRA 14:9)

(Russia--Army--Physical education)

PROCESSED AND PROPERTIES INDEX

B-19

Comparative test for acid-resistance of
 enameled-ware. K. AZAROV and N. KRIMIR (Zavod.
 Lab., 1937, 6, 623-624).—Standard methods are
 criticised. R. T.

METALLURGICAL LITERATURE CLASSIFICATION

62	37	19	6	2	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0
----	----	----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

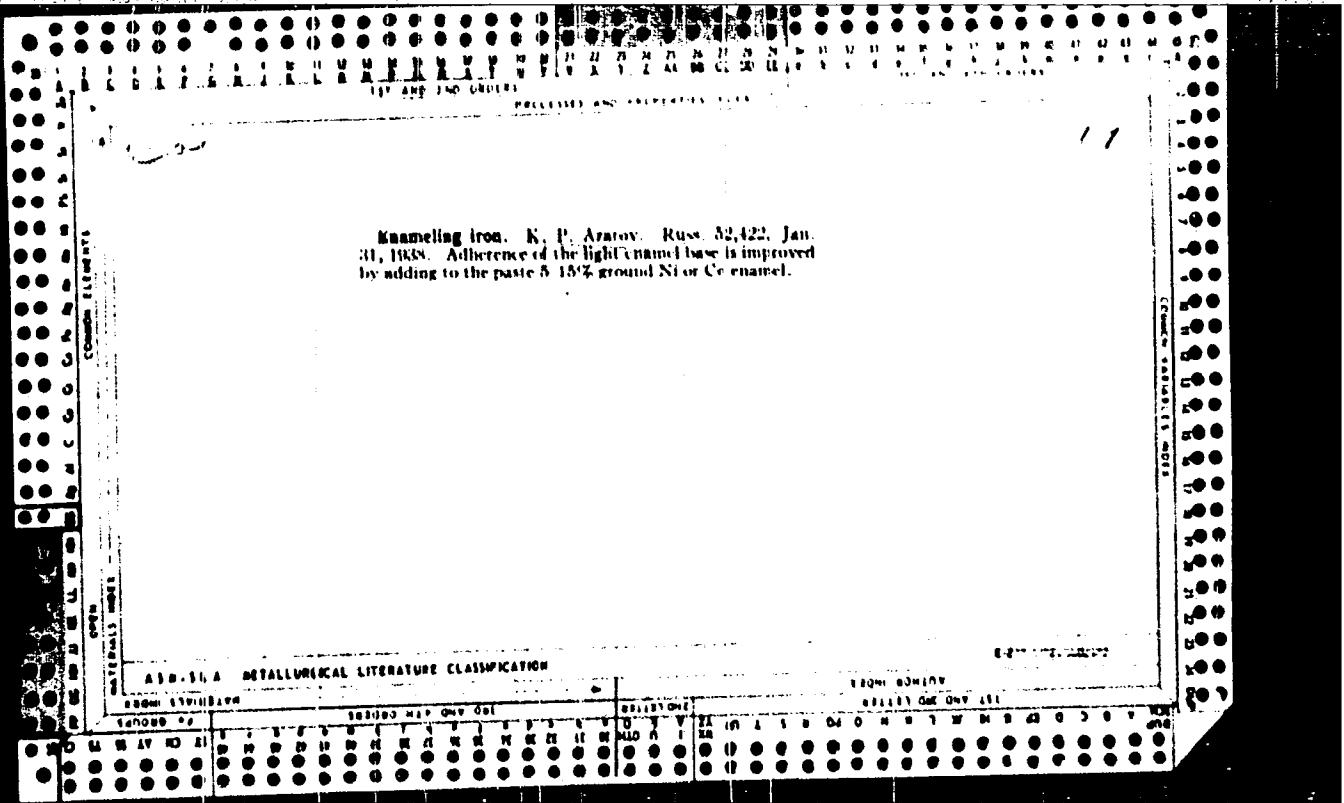
RESEARCH AND PROPERTIES INDEX

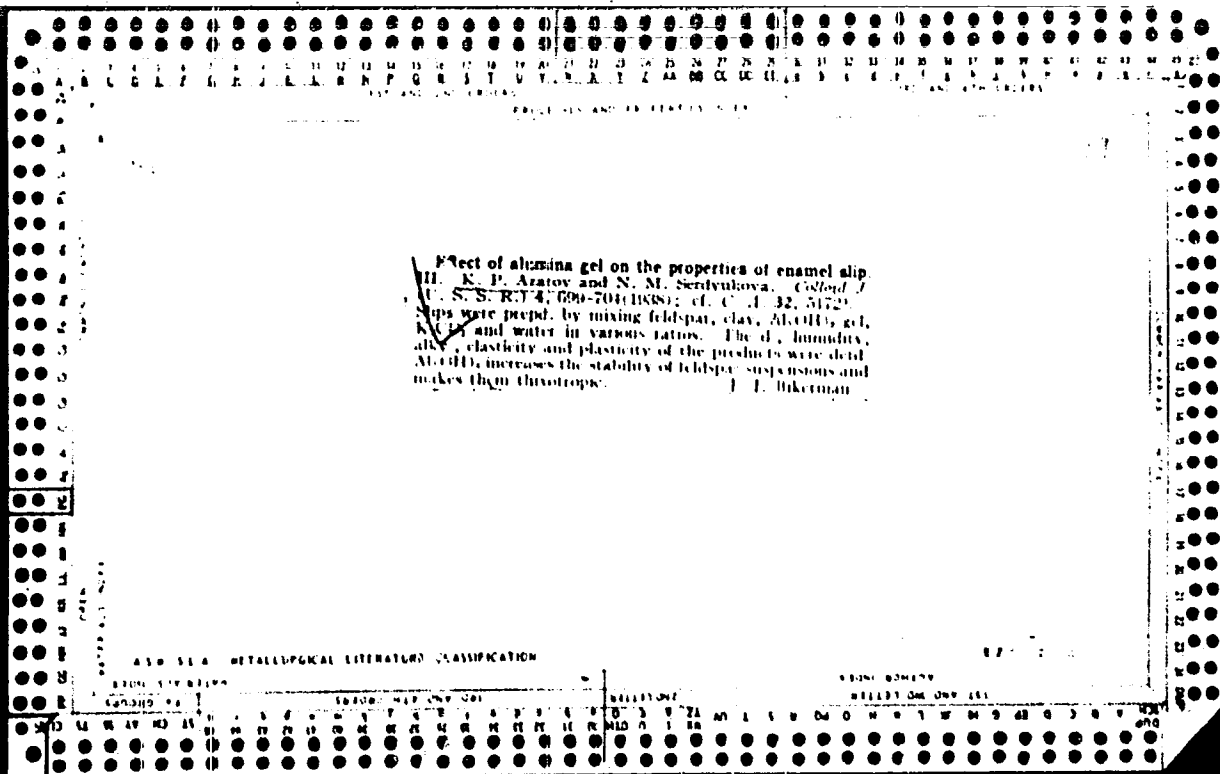
19

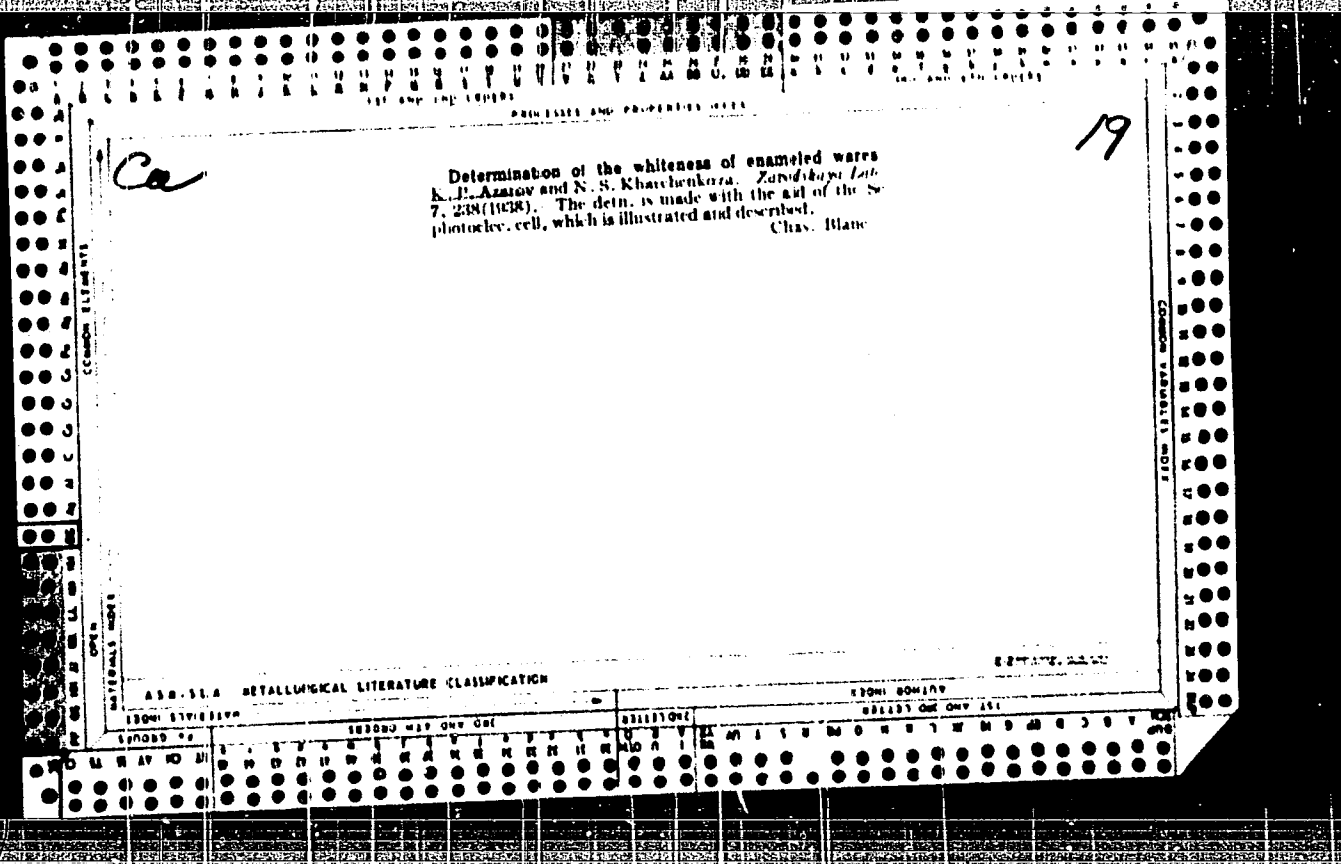
Investigation of the properties of enamel alloy. I. A secondary draining and "reversible thickening." K. Assorov and N. Serdyukova. *J. Applied Chem. (U.S.S.R.)* 10, 1894-1903 (in French 1933) (1937).—The cause of "secondary draining" may be an excessive alkali of the alloy, caused by the solubility of the frit or by the amount of added electrolytes. The high alkali caused an increase in mobility and in tendency to the "reversible thickening" phenomenon. The velocity and degree of the latter depended on the amount of electrolytes in the alloy. Rightless references. A. A. Podgoray

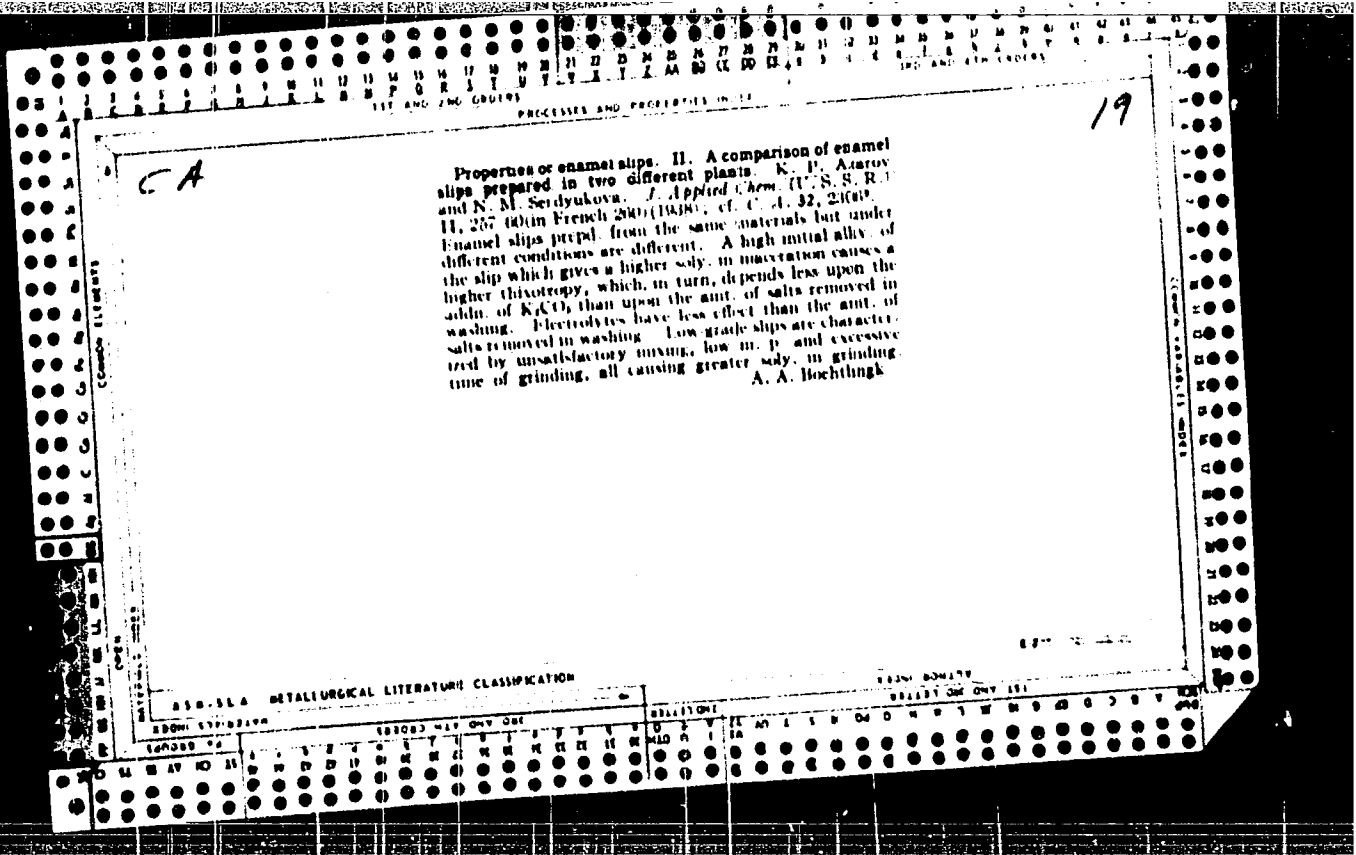
METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----









BC

B-1-9

Influence of fluorine and of alumina on acid corrodibility of enamels.
K. I. Asarov and N. Chertshenkova (J. Appl. Chem. Russ., 1938, 11, 261--
276).--The effect of adding fluorides of Al₂O₃ varies according to the com-
position of the frit and to the amount of the substances added. K. T.

ASB-SIA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

16

Electromagnetic Method of Determining the Thickness of Enamel Coatings. K. Azarov and N. Kharchenkova. (Zavodskaya Laboratoriya, 1939, No. 4-5, pp. 508-512). (In Russian). The simple instrument for determining the thickness of enamel coatings described involves the measurement of the change in the magnetic resistance of a closed magnetic circuit consisting of the electromagnet and the iron object carrying the enamel or other non-ferromagnetic coating. Alternating current is used. Test results, while in general satisfactory, are affected by temperature, owing to the use of a cuprous oxide rectifier in the circuit.

433.314 METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

A.C.S.

Enamel

Electromagnetic method of determining enamel thickness. K. ALIMOV AND N. KHARCHENKOVA. *Zarodishys Lab.*, 8, 289-99 (1939); *Chem. Abs.*, 34, 333 (1940).—
The method is based on changes in the magnetic resistance of a closed circuit containing an electromagnet and the enameled specimen. The thickness of the layer is estimated by current changes in the coil of the electromagnet. The measurements are made regardless of the thickness of the iron sheet. The disadvantage of the method (a Cu oxide rectifier is used) is the effect of the outside temperature. The apparatus may be used for laboratory control work, but corrections should be made for the surrounding temperature. A diagram of the setup and the results of tests are given.

CA

19

White ground-coat-enamel for iron. K. P. Azarov and N. S. Kharchenkova. *J. Applied Chem.* (U. S. S. R.) 12, 1598-1000 (in French, 1960) (1930). - The iron goods were pickled in acid, washed and immersed for 30 min. in a soln. of Ni at 70-80° (60 g. NiSO₄·7H₂O per l. of water) and H₂O₂ (1.8 g. per l.) as a buffer salt, and then neutralized with Na₂CO₃ and dried at 110-20°. The Ni soln. must have a pH of 5.0-6.2. The basic enamels (No. 53 and No. 145, resp.) contained: sand 23.10, 25.10; borax 32.40, 32.80; feldspar 13.81, 20.20; Na₂CO₃ 4.02, 7.00; KNO₃ 14.80, 3.80; fluor spar 4.15, 3.30; cryolite 2.77, 0; spatite 3.05, 0; ZnO 0, 2.10 and Sb (metallic) 3.88, 5.00%. This mixt. was fused at 1000-1100° and ground in a ball mill. Two mixts. were then prepd. contg., resp.: ground mixt. No. 53, 50, 50; ground mixt. No. 145, 50, 50; clay 4, 4; ZrO₂ (analysis: ZrO₂ 61.51, SiO₂ 35.35, Al₂O₃ 0.53, Fe₂O₃ 0.40, R₂O 0.55 and R₂O 0.21%) 0, 4; ground quartz sand 5, 5; and water 40, 40 parts. Finishing details are described. Ni-plating improves the adhesion of the enamel. A. A. Boshluyk

ASD-31A METALLURGICAL LITERATURE CLASSIFICATION

SUBJECT										AUTHOR									
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T

PROCESSES AND PROCEDURES

Selenium-cadmium pigments for plates and enamels.
 K. Azarov and L. Falnsler. *J. Chem. Ind. (U. S. S. R.)*
 1957, No. 2, 42-4 (1959).—A mixt. of $CdCO_3$ 61.0, S 23.81
 and Se 14.28% ignited at 600° for 20–22 min. gives a clear-
 red pigment suitable for enamels. After mixing it with
 the enamel, the pigment should be heated for the shortest
 possible time and in an atm. free from SO_2 to avoid altera-
 tion in the color. Addn. of SiO_2 and Na_2SO_4 to the pig-
 ment does not affect the color. Addn. of 1% quartz
 powder improves it somewhat, and addn. of Fe_2O_3 , NaCl,
 $MgSO_4$, KCl, K_2CO_3 , borax, MgO or $MgCO_3$ has a harm-
 ful effect. H. M. Leicester

19

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

Handwritten: H. G. ...

Handwritten: Enamel 4

Optimization of glasses and enamel with zirconium compounds. K. AGAROV AND L. FALMIDON. *Zbor. Priklad. Khim.*, 15, 1614-15 (1940); *Chem. Abs.*, 35, 2625 (1941).— Zr concentrate was treated as follows: magnetic concentration, grinding and milling to fine powder, boiling with H₂SO₄ (density 1.36; 2 cc. per gm. of ore) for 2 to 2.5 hr., washing, drying, calcining at 500° to 550°, and final powdering. The Zr opacifier obtained, in the amount of 6%, was mixed (milled) with white frit and applied to ceramic ware. The determination of acid stability, thermal stability, and mechanical durability showed that the enamel coating with Zr opacifier produced as white a surface as the coating containing PbO.

AZAROV, K. P.

1374. The influence of admixtures on the fluidity of fused silicates.—K. P. AZAROV (*Ogneufory*, No. 9, 399, 1950; abstracted in *Stavro*, 28, 304, 1950). The

author investigated the change in fluidity on heating 4 low-melting silicate glasses to which various substances were added. Two of the glasses contained between 13.8-20.2% B₂O₃. The glasses were first fused between 1,200^o-1,250^o C., ground in H₂O, milled and passed through 70- or 80-mesh sieves. The fraction between 175- and 200-mesh was used in the expts. The mixture of glass grains and additions was wetted and pressed into small cylinders. The admixtures were alkali, alkaline earth, Fe, Pb, Zn and Mo oxides. The fluidity of the mixture was determined by measuring the temp. of initial and final softening; the difference between these 2 temps. characterizes the softening interval. Amongst the alkali oxides the greatest increase in fluidity was caused by the addition of 0.7-1.5% Li₂O. The alkaline earth oxides have a varying effect on different glasses. With the exception of BaO all these oxides raise the temp. of initial softening. BaO and MoO₃ increase the difficulty of fusing the glass. Addition of 2-4% Fe oxide strongly reduces the initial and final temps. of softening, especially with B-free glasses; Fe oxide can therefore be used as an energetic flux to regulate the difficult fusibility of the melts. PbO

EXH

208

C

J

Interaction of silicate melts with iron oxides. K. P. ALABUKOV, *Doklady Akad. Nauk SSSR*, 15 [12] 551-55 (1950).—An iron oxide tablet was placed in a porcelain tube having a fire-clay bottom, covered with a tablet of glass powder, and heated in an electric furnace up to 950°C at 3°/min. The contents were cooled with the furnace, cut longitudinally, polished, and examined under the microscope. Silicic melt reacted weakly with the oxide of iron. Boron-free glass wetted the oxide slightly and separated easily after cooling. At the line of contact, the melt contained many large gas bubbles which were formed as a result of the reduction of oxide. The structure of the oxide at the line of contact differed considerably from that in other sections; this may be due to change-over into lower oxides and also some wetting. Boric melt reacted more energetically with the oxide and was bound with it. In the contact zone, however, the melt had many gas bubbles and did not penetrate far into the oxide tablet. Wetting and reaction of both boric and boron-free melts with ferrous-ferric oxide proceeded more intensively than with ferric oxide; after cooling, the melts were firmly bound to the tablet, wetting was good, and penetration was deep. Directly at the boundary, there was solution of ferrous-ferric oxide so that only separate grains were retained in the upper layers. Boric melt wetted and dissolved the ferrous-ferric oxide more intensively than the boron-free melt. Both boron-free and boric melts reacted rather energetically with ferrous oxide, wetting was good, penetration was deep, and much iron oxide was dissolved. 6 photomicrographs. B. Z. K.

AZAROV, K. P.

PA 16379

USSR/Engineering - Enamels
Glazes

Jun 50

"Determination of the Fusibility of Enamels and
Glazes," K. P. Azarov, Novocheboksinsk Polytech
Inst

"Zavod Lab" Vol XVI, No 6, pp 748-750

Describes vertical-tube furnace for determining
fusibility with simultaneous characterization
of softening kinetics of enamels and glazes. Pro-
cedure, based on method for determining deforma-
tions in refractories under loads at high

16379

USSR/Engineering - Enamels
(Contd)

Jun 50

temperatures, gives better information on behavior
of enamels with increase in temperature than ordi-
nary methods for determination of their fusibility.

16379

APCS

WINNING, PREPARATION, SHAPING.

1971. DETERMINATION OF THE PINT WEIGHT AND THE ADJUSTMENT
OF CERAMIC SLIPS K. P. Anarov (Stek. Keram., 8, No.
1, 21, 1951). The working properties of casting, glass
and enamel slips are determined by the water content,
firmness, viscosity, and amount of dissolved salts. A
slip is a complex dispersed system, the solid and liquid
phases of which have a different bulk density. If the
s.g. of each of these phases is const., the bulk density of the
system determines the quantitative correlation between the
phases. Since, in a plant, the solids content is const.
and corresponds to the desired recipe, the water content
of a slip can be determined from its bulk density. The
method of determining bulk density is briefly described.
On the basis of calculations, which are explained, a
table is given by means of which it should be easy to find
the amount of water to be added (1/101. of slip) to obtain a slip
with a desired bulk density. Some formulae are given for other
calculations with slips. (2 figs., 2 table)

BCS

Chemistry & Physics

492. The wetting of iron oxides by silicate fusions. — K. P. AZANOV. (*Chemistry*, 16, 171, 1951). The wetting of Fe oxide by a silicate fusion and the influence of the addition of some cations and anions to the initial glass on the wetting of the solid phase and, for comparison, the wetting of CaO , Al_2O_3 and SiO_2 by silicates were investigated. The description of exper. that follows includes the determination of the depth to which the fusion penetrates into the solid and the determination of the contact angle. Discussing the results the author deals with the influence of the addition of cations having complete electron rings; a comparison of the action of cations with complete and incomplete electron rings; a comparison of the action of different anions, of sulfides, and of various solid phases. The wetting of Fe oxide by fusions can be adjusted within wide limits by the addition of surface-active substances to the initial glass. Interaction and wetting of the Fe oxide is improved with decrease of ionic radius of the Group I cation added or with increase of the ionic radius of the Group II cation added or with increase of the ionic radius of the anion. Cations of Group I were introduced as carbonates, those of Group II as oxides. Wetting greatly depends on the chemical nature of the solid phase as well as on that of the fusion. (11 figs)

CA

Reaction of silicate melts with the solid phase. K. P. Anany (Nergo Ordzhonikidze Novocherkassk Polytech. Inst. (Novocherkassk). *Doklady Akad. Nauk S.S.S.R.* 76, 571-5 (1951).—Studies included the depth of penetration of the melt into the solid phase and the marginal angle of wetting of the solid phase by the melt. Powd. Fe_2O_3 was compressed in a porcelain tube, covered with a powdered mixt. of low-m. glass (theoretical compn. of SiO_2 60.40, Al_2O_3 2.10, Na_2O 13.75, and CaF_2 13.84%) and carbonates of cations of 1st group or oxides of cations of 2nd group, heated to 950°, cooled, and examined. The wt. of carbonate or oxide corresponded to 0.03 g. atoms of cation per 100 g. of glass. In detg. the wetting, a tablet of powd. glass and admixt. was placed on a plate of powd. Fe_2O_3 , heated to 930° at 3°/min., cooled, and examined. With increasing radius of cations of the 1st group, the depth of penetration decreased and the marginal angle of wetting increased; with increasing radius of cations of the 2nd group, the depth of penetration increased and the marginal angle of wetting decreased (wetting improved). Cations having electronic configuration of base gases Cu^+ , Ag^+ , Cd^{2+} , Cu^{2+} , and Ni^{2+} were compared with corresponding cations of the structure of noble gases and of approx. the same ionic radius; cations with incomplete electronic frame stimulated wetting and reaction of the melt with Fe_2O_3 more energetically than did cations of the structure of inert gases and corresponding ionic radius. Use of admixts. of oxides, sulfides, and selenides of Cu , Cd , and Ni showed that, with increasing radius of anion for one and the same cation, the wetting of Fe_2O_3 was improved considerably. The effect of different solid phases on wetting was studied with CaO , Al_2O_3 , SiO_2 , and Fe_2O_3 as solid phase and admixts. of Fe sulfide and Mo oxide added in amt. of 0.4% by wt. to the glass. In the case of SiO_2 and Fe_2O_3 , these admixts. improved wetting; in the case of CaO and Al_2O_3 , wetting was impaired.

H. Z. Kamich

1951

P.J.R

Chemistry - General, Organic & Physical

6109* Wetting of Solid Phases by Molten Silicates. (In Russian.) K. P. Azarov. *Doklady Akademii Nauk SSSR*, new ser., v. 82, Jan. 1, 1952, p. 79-82. The wetting of various oxides by a series of molten silicates was determined experimentally. Results are charted and briefly discussed.

ALARON, L. P.

Thermal resistance of enameled articles. *M. P. Azroy*
 Trudy Nauchnoissled. Politekh. Inst. 1955, No. 2527. The effects of
 stresses in the enamel coat, coeff. of thermal expansion of
 the enamel and the metal, thickness of the enamel coat, shape
 of the article, and the conditions of heating and cooling in
 use on the thermal resistance of enameled steel articles are
 discussed. Methods of detg. thermal resistance and fire-
 proofing of enamel coatings and methods of detg. the resist-
 ance of enamel coats to alternating freezing and thawing are
 outlined. *M. Hosh*

Matta

4500

PM

ADN 800 - R.P.

~~Titanium ground enamels. K. P. Azarov and G. V. Berdova. *Trudy Novokerkaske. Azerb. Inst.* 25: 159-60 (1954); *Referat. Zhur., Khim.* 1953, No. 2531. — Addn. of TiO₂ or Na-Ti silicate into the compn. of H-free ground enamels for steel improves the properties of the coating appreciably. The compns. of ground enamels which gave the best results are given. M. Hosh~~

2
Met
em

5000

AZAROV - K.P.

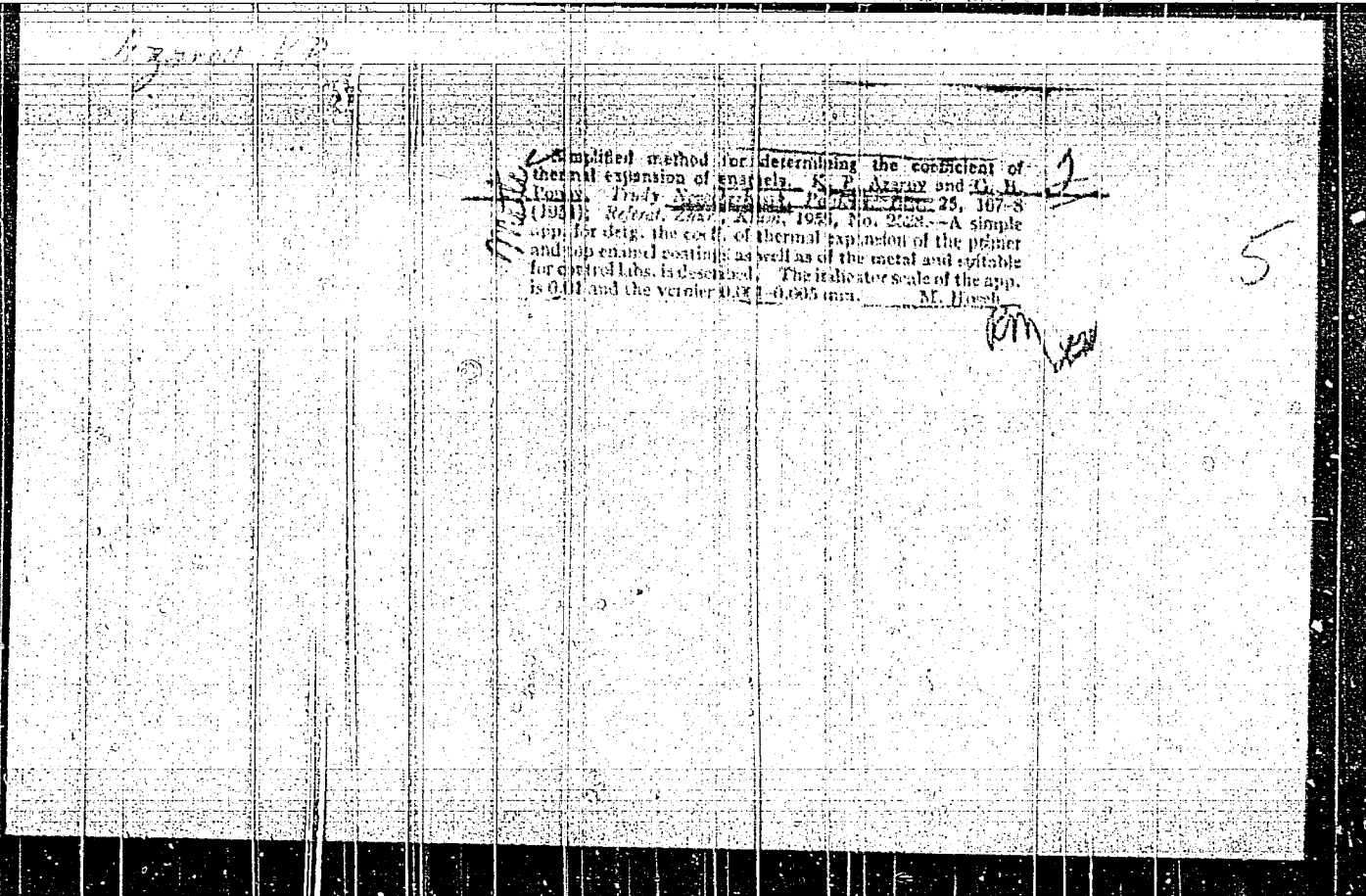
White titanium and zirconium enamels. K. P. Azarov and G. V. Berdova. *Izvestiya Akad. Nauk SSSR, Khim. 1955, No. 25, 181-0 (1954); Referat. Zhur., Khim., 1955, No. 2523.*
 The opacity of TiO₂ and ZrO₂ enamels was affected by the difference in the vis. of the dispersion medium (vitreous phase) and the dispersed phase (opacifier), content and particle size of the opacifier, the gaseous phase in which Ti enamels are fired and the temp. at which it is done. TiO₂ was a stronger opacifier than ZrO₂ but Ti enamels are prone to give a yellow discoloration if the firing conditions change and when it is contaminated with Fe, Cr, or other oxides.
 M. Hesch

M.H.

Z

6000

PM



AZAROV, K. P.

mate

Determination of the degree of opacity of enamel by the grain method. K. P. Azarov and V. V. Bolandina. *Trudy Vsesoyuznogo nauchno-issledovatel'skogo instituta zhenitskogo znanija*, 1954, No. 25, 100-101 (1954); *Russk. Khim. Zh.*, 1954, No. 2526. — Enamel grains are passed through 2 screens, washed free of dust with alc., and placed in a special cell eqd. an immersion liquid which has the same coeff. of refraction as the enamel. The cell is placed in a specially constructed app. comprising a source of light, Se element, and a galvanometer which registers the intensity of the passing light. The relative transparency is calcd. from $T = 100a/b$, where a is the galvanometer reading when the cell is filled with the enamel and b is the galvanometer reading with an empty cell.

2

PM

AZAROV, K. P.

1111

USSR

Controlling the properties of steel enamel. K. P. Azarov. *J. Appl. Chem. U.S.S.R.* 27, 37-38 (1954) (translation). -- See C.A.B. 48, 6941d. H. L. H.

mt
Jan

Properties of ground enamels for steel sheet K. P. Azarov, *Zhur. Priklad. Khim.* 27, 83-82 (1954); *Sov. Metall.* 3, 347-8 (1954).—Many attempts have been made to substitute the specific of B_2O_3 on the properties of ground enamels by an increase in Na_2O content. The results have always been unsatisfactory because of increasing surface tension of the melt to the steel sheet surface, and decreasing chem. stability of the enamel. For the effects of B_2O_3 are characteristic the low surface tension and the specific gradient properties on the viscosity vs. temp. curve (cf. Dietzel and Arnold, *C.A.* 37, 4980¹). Systematic expts. of A. have demonstrated that a considerable improvement of the properties of B_2O_3 -free enamels is observed if FeO , Li_2O , and borax (with 88% PbO , 12% SiO_2) as a favorable effect, and the softening temp. is given lower than that of B_2O_3 -contg. enamels. BaO , MoO_3 , CaO , MgO , and particularly SrO increase the softening temps., while NaF , ZnO , K_2O , and Na_2O have relatively subordinate effects. The oxidation of Fe (scaling) is stronger for B_2O_3 -free enamels than for B_2O_3 -contg. melts; Ni plating is the best protection measure to reduce the oxidation, addns. of Si and C to the enamel are

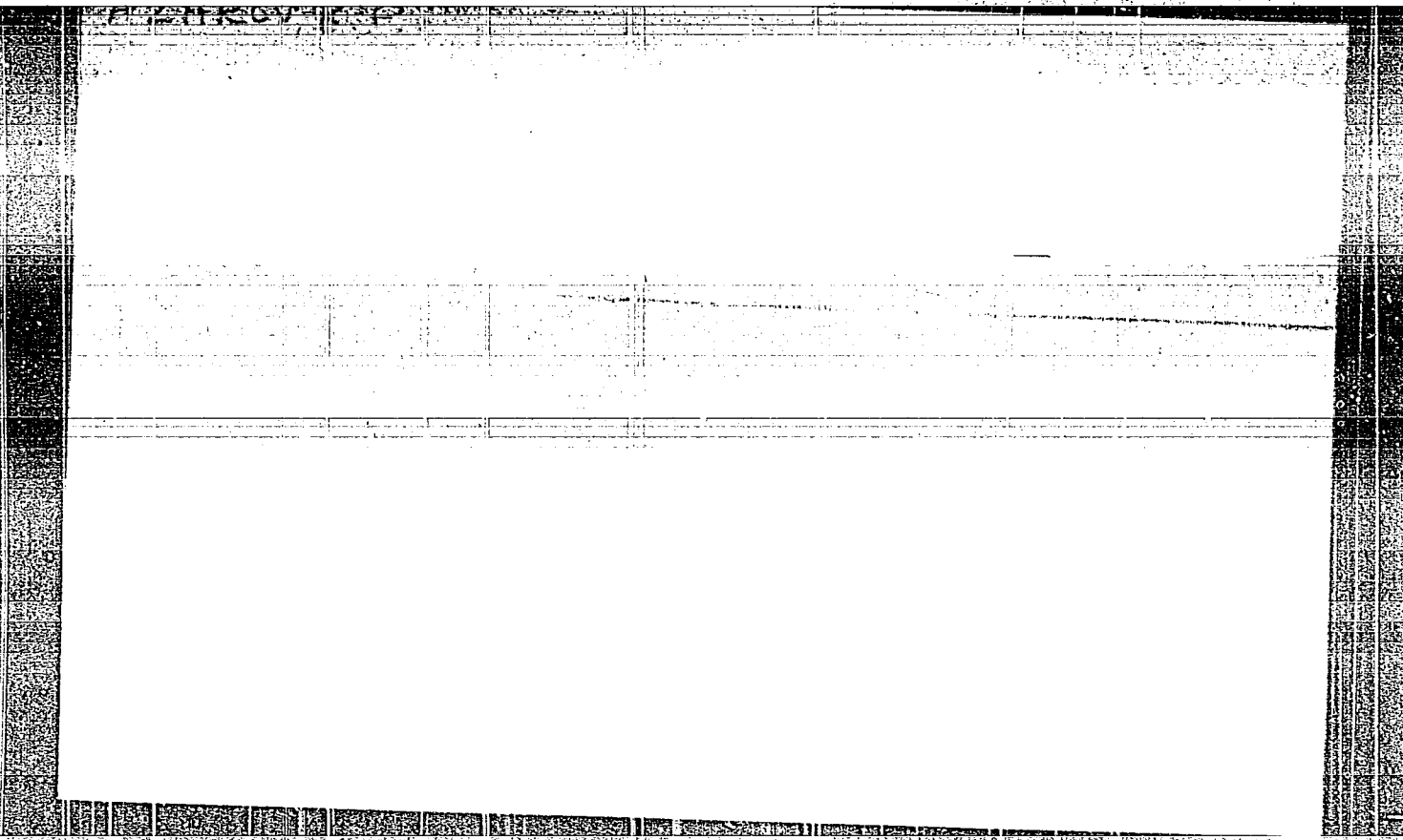
also helpful. Model expts. were made to study the soln. of FeO , PbO , and Fe_2O_3 in enamel melts at 930°. The gas evolution ("bubbling") of B_2O_3 -free enamels with FeO is always intense. The surface tension enamel-sheet affects the rate of the removal of gas bubbles and of the smooth flowing of the melt. The higher surface tension of B_2O_3 -free enamel is the chief reason for their unsatisfactory qualities. An improvement is possible by addns. of MoO_3 , or of sulfides or selenides of Cu, Fe, and Sb, which reduce the surface-tension coeff. W. B.

MA
JLH

Azarov, K. P.

Quality of Steel for Enamel [sic] K. P. Azarov. (Stal', 1955, (4), 361-367). (In Russ.) The properties and composition of steel for enameling are considered and some special tests are described. The properties include resistance to buckling and bending, physical homogeneity (especially non-metallic inclusions and pores) and hydrogen content. The mechanism of the formation of defects in the enamel layer due to lack of physical homogeneity is dealt with. Recommended compositions of ordinary, refined and titanium steels and alloys are tabulated. Apparatus for determining corrosion, buckling and bending to flaking are described.

29



USSR/Chemical Technology. Chemical Products and Their Application -- Fertilizers,
I-6

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5064

Author: Zhdancv, Yu. A., Azarov, K. P., Gorbatenko, V. Ye.

Institution: Academy of Sciences USSR

Title: Glasses and Frits for Supplying Minor Elements to the Soil

Original

Publication: Dokl. AN SSSR, 1956, 108, No 6, 1129-1131

Abstract: To improve the distribution of minor elements (ME) B, Mn, Cu, Zn, Fe, Mo, Co, within the soil, to decrease their combining with other soil components and to reduce their leaching, it is advantageous to add to the soil ME that have been fused or fritted with glass. Solubility of the glass or frit is regulated by composition of the glass or by changes in the procedure of its production. Growing experiments are described which serve to determine the efficacy of minor element fertilizers prepared from readily fusible 3- or 2-component glasses, window glass scrap or phosphate glass, containing also P, K, etc, by

Card 1/2

AZAROV, K.P.

AUTHORS: Azarov, K.P.,
Zhdanov, Yu. A.,
Skalozubov, M.F.

26-10-12/44

TITLE: Perennial Mineral Fertilizers (Mnogoletniye mineral'nyye udobreniya)

PERIODICAL: Priroda, October 1957, No 10, pp 84-86 (USSR)

ABSTRACT: To improve the nutrition of plants, fertilizers are used which contain nitrogen, phosphorus, potassium and so-called trace elements as boron, copper, cobalt, zinc, manganese and others. Too large or too small quantities of such trace elements are harmful to the plants. As soluble salts used as fertilizers either wash out in the soil too fast or form compounds with other components of the soil, which the plants cannot assimilate, a new method has been developed by making fertilizers perennial. It consists of introducing into the soil chemical trace elements fused with easily melting glass which is then pulverized and used for fertilizing. Such frits spread out well in the soil, supplying plants steadily and for a long time with trace elements. Experiments conducted with corn, potatoes, sugar beets and cabbage over the period of a year gave very satisfactory increases of crops.

Card 1/2

Perennial Mineral Fertilizers

26-10-12/44

The article contains one photo and one table.

ASSOCIATION: Novocherkassk Polytechnical Institute (Novocherkasskiy politekhnicheskiy institut) Novocherkassk

AVAILABLE: Library of Congress

Card 2/2

L 32663-65
EPR/EWP 51

EWG(j)/EWP(e)/EWT(m)/EPA(s)-2/EFP(c)/EPV(n)-2/EWP(t)/T/EPA(w)-2/
Pub-10/Pr-1/De-1/Ch-10

AUTHOR: Azarov, K. P.; Pionadzhlyev, A. S.

67
R
27

TITLE: Study of the system phosphorus pentoxide - magnesia - alumina - sodium

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 7, 1965, 414-416.

TOPIC TERMS: enamel; low melting enamel; sodium aluminum magnesia phosphate
flux; phosphorus pentoxide; glass; alumina; magnesia; sodium

ABSTRACT: Samples of the system $P_2O_5-MgO-Al_2O_3-Na_2O$ were prepared in a wide range

The samples were prepared with varying Al_2O_3 content and the ratio
 P_2O_5/Al_2O_3 , e.g., 8:1000 with the ratio exceeding 1 (overall the visible

Card 1/3

L 32663-65

ACCESSION NR: AP5005572

narrower temperature interval than glasses having a ratio smaller than 1. Selected compositions with 20% Na₂O were used as a low-melting enamel base and gave coatings of good quality on aluminum. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: Novocherkasskiy politekhnicheskii institut im. S. Ordzhonikidze
(Novocherkassk polytechnic institute)

SUBMITTED: 25Jan69.

ENCL: 01

SUB CODE: MT

NO REF SOV: 007

OTHER: 000

Card 2/3

L 32663-65

ACCESSION NR: AP5005572

ENCLOSURE 01

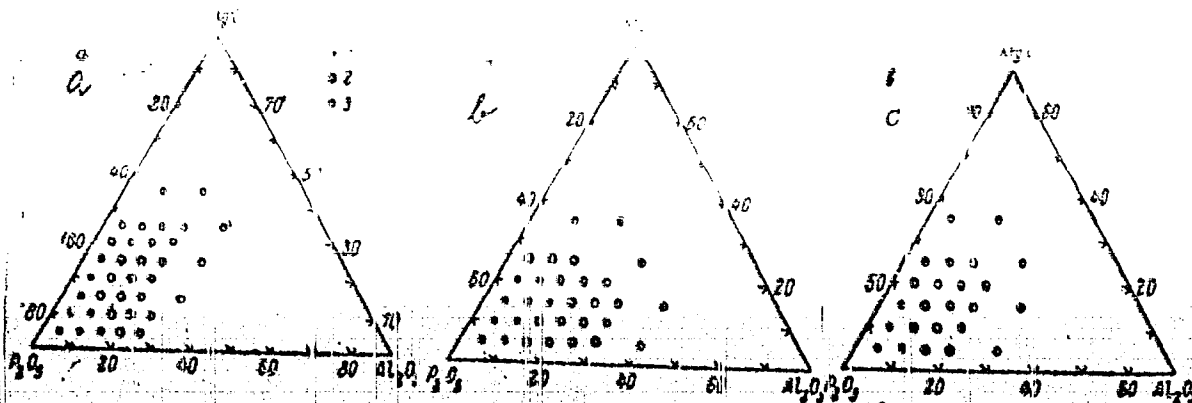


Figure 1. The system P_2O_5 - MgO - Al_2O_3 - Na_2O . a-10% Na_2O , b-20% Na_2O , c-30% Na_2O .
1-transparent glass, 2- crystallization, 3-incomplete melting.

Cord 3/3

AZAROV, K.P.

AUTHOR: Azarov, K.P., Gorbatenko, V.Ye. 32-9-30/43

TITLE: A Device for the Determination of Warping of Steel Plates During the Process of Enamelling (Pribor dlya opredeleniya korobleniya listovoy stali v protsesse emalirovaniya)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 9, pp.1128-1129 (USSR)

ABSTRACT: A newly developed device by means of which it is possible to determine the degree of warping of steel plates after being heated is described here. Experiments carried out with this device made it possible to find out which type of steel shows the greatest amount of resistance against warping. Experiments also showed the differences in the change of curvature in dependence upon the direction of rolling; curvature in the direction of rolling changes much less than a curvature that is vertical to the direction of rolling. There is 1 figure.

ASSOCIATION: Polytechnic Institute imeni Sergo Ordzhonikidze of Novochoerkassk (Novochoerkasskiy politekhnicheskiy institut im.Sergo Ordzhonikidze)

AVAILABLE: Library of Congress

Card 1/1

SOV/137 58-8-17503

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 185 (USSR)

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

TITLE: Oxidation of Steel During the Baking of Boric and Boronfree Undercoatings (Okisleniye stali pri obzhige bornykh i bezbornykh gruntovykh pokrytiy)

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1957, Vol 63/77, pp 59-70

ABSTRACT: It is demonstrated that preliminary treatment (fire and mechanical degreasing, etching) has an effect on the oxidation of steel prior to enameling. A variation of the degree of oxidizability of steel within the 400-1200 mg/dm² limits has no notable effect on the quality of boronfree undercoating. In the baking in air, the oxidation of steel depends on the conditions of the baking and the type of coating. By contrast, the oxidation of steel in an inert atmosphere is insignificant, which points to a low oxidizing action of enamel melts including the boronfree ones. The formation of burned spots is related to the duration of the stay of the undercoatings in a temperature range corresponding to their boiling. The series of stages in the formation of undercoats during heating is established. 1. Steel--Oxidation 2. Steel--Coatings 3. Enamel coatings--Applications

Card 1/1

SOV/137-58-9-19610

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 211 (USSR)

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

TITLE: On Titanium Undercoat Enamels for Steel (O titanovykh gruntovykh emalyakh dlya stali)

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1957, Nr 70/84, pp 159-165

ABSTRACT: Boronfree undercoat enamels (E) with various contents of Ti dioxide were tested to establish its effect on the fusibility of E and the occurrence of boiling and burns in the coatings. It is established that boiling and burns occur in the temperature range corresponding to the slowing down of the softening of E. Ti dioxide increases the fusibility of E Nr 35. The addition of 10% of Ti dioxide, which decreases the formation of boiling and burns of the boronfree base coating is the most effective.

N.L.

1. Enamel coatings--Materials 2. Titanium--Applications 3. Steel
--Coatings

Card 1/1

AZAROV, K.P.

AUTHORS:

Azarov, K.P., Balandina, V.V.

20-6-26/48

TITLE:

The Solubility of Iron Oxides in Silicate Melts with or without a Content of Boron (Rastvorimost' okislov zheleza v bornykh i bezbornykh silikatnykh rasplavakh)

PERIODICAL:

Doklady AN SSSR, 1957, Vol. 115, Nr 6, pp. 1146 - 1147 (USSR)

ABSTRACT:

Numerous processes of silicate-technology (production of special and colored glass, refractory products, cement etc.) are accompanied by the dissolution of iron in melts. The capability of silicate melts to dissolve iron oxides is of special importance in the technology of the enameling of steely and cast iron, for the success of enameling is determined by the interaction processes of the enamel-fundamental-melt with the oxidized metal (scale). The problem of the fundamental enamels without content of boron is also connected with this problem. The present data on the solubility of iron oxides in the fundamental enamels are, however, contradictory. They can be found for a reliable evaluation of the part played by iron oxides, and especially not for an explanation of the connection existing between their solubility and their content in the boronhydride melt. In this connection investigations were carried out whose purposes were:

Card 1/3

The Solubility of Iron Oxides in Silicate Melts with or without a Content of Boron

20-6-26/48

of the melt in this layer hinders the free escape of gas from the steel and from the reaction of the scale with the carbon of the steel, and favors the formation of effervescence and corrosion. The small solubility of iron oxides in boron-free enamels may be connected with: a) a high surface tension of boron-free melts which render the wetting of iron oxides and their dissolution difficult, b) an abrupt increase in viscosity of the boron-free enamels due to structural transformations of various forms of iron and c) a considerable basicity of the boron-free melts which favors the development of the glass-forming FeO -groups; these latter, however, consolidate the glass-structure. There are 1 figure and 3 Slavic references.

ASSOCIATION: Novochoerkassk Polytechnical Institute imeni S.Ordzhonikidze
(Novochoerkasskiy politekhnicheskiy institut im. S.Ordzhonikidze)
PRESENTED: by N.V. Belov, Academician, April 4, 1957
SUBMITTED: March 1, 1957
AVAILABLE: Library of Congress

Card 3/3

AUTHORS:

Ananov, K. P., Gorbatenko, V. Ye SOV/72-59-7-11/19

TITLE:

Determination of the Optical Indexes of Enamel- and Glaze Coats (Opredeleniye opticheskikh pokazateley emalevykh i glazurnykh pokrytiy)

PERIODICAL:

Steklo i keramika, 1958, Nr 7, pp. 38 - 40 (USSR)

ABSTRACT:

The coloration of small flat samples can be measured by means of colorimeter, spectrophotometer, color-comparator, and other devices, as is shown in the papers by M. M. Gurevich, L. N. Meyyer, D. A. Shklover, and R. S. Ioffe (Ref 1). All these devices are, however, not apt for the checking of ceramic and enameled industrial products, since the examination cannot be carried out without a destruction of the latter. The existing devices for the determination of the whiteness and gloss of the products (see Ref 2, the papers by V. A. Lukshin and V. S. Faueyev) do not take into account the coloration of the coats and cannot be used in all cases. The construction of the device which was developed by the authors of this paper with the aid of V. N. Krolinov permits the control of the whiteness and coloration of

Card 1/3

Determination of the Optical Indexes of Enamel - 507/12 58 7 11/19
and Glaze Coats

different products without destruction of the latter. The scheme 1.b (Fig 1) was used in this device instead of the usual scheme 1.a; the first scheme yields practically the same results as is shown in the paper by P. M. Tikhodeyev (Ref 3). The electric diagram of this device is shown in Fig 2. The illuminating device OI-7, or OI-19, respectively is used for the production of the head for the measuring of the whiteness (external view see Fig 3) with an incandescent bulb of the type STs-61. For the measurement of the gloss the head is provided with a headpiece (Fig 5) according to the scheme of Fig 4. Furthermore a formula (1) is given for the calculation of the whiteness. In order to measure the coloration of achromatic surfaces, the casing C was provided alternately with a blue (SS-5), green (ZS-1), orange (OS-14) and red (KS-13) light filter and the diffuse reflection is determined. The results obtained by the determination of the whiteness and the coloration of slightly colored enamel coats are given in Table 1. The results for surfaces with chromatic color are given in Table 2.

Card 2/3