

28(4)

30V/32-25-8-44/44

AUTHORS:

Vasilevskaya, L., Shifrina, G.

TITLE:

On Supplying Unbreakable Vessels to Laboratories (On Account of a Letter by Ye. A. Pushakova Published in the Periodical "Zavodskaya Laboratoriya" Nr 4, 1959)

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, p 1020 (USSR)

ABSTRACT:

The question mentioned in the title is incorrectly presented by Ye. A. Pushakova. There not only is a necessity of unbreakable laboratory vessels but also of such vessels which cause no impurities in the substances to be investigated at high temperatures and in aggressive media. Equally incorrect is the statement that at present there are no experiment results for the preparation and use of plastic laboratory dishes, as investigations are being conducted in several institutes, especially in the Giredmet with "ftoroplast-4". The problem of the analysis of super-pure substances in such vessels has already been solved and extensive statistical material has been compiled concerning this theme which was approved by the analiticheskaya komissiya pri GYeOKhI AN SSSR (Analytical Committee at the GYeOKhI of the AS USSR). The manufacture of

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SOV/32-25-8-44/44

On Supplying Unbreakable Vessels to Laboratories (On Account of a Letter by Ye. A. Pushakova Published in the Periodical "Zavodskaya Laboratoriya" Nr 4, 1959)

vessels made from "ftoroplast-4" was up to present on a small scale but serial and mass production should be started.

Card 2/2

USDOM-DC-61,756

S/032/62/028/006/008/025
3110/3101

AUTHORS: Vasilevskaya, L. S., Kondrashina, A. I., and Shifrina, G. G.

TITLE: A spectrochemical method of determining the boron content in silicon and silicon compounds

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 6, 1962, 674 - 676

TEXT: A very accurate, sensitive, and efficient spectrochemical method was developed for determining the boron content in silicon, SiO_2 , SiCl_4 , and trichlorosilane. Si is removed in the form of SiF_4 , and boron is bound with mannitol to form a complex compound. To prevent contamination from outside, fluoroplast vessels are used and the Si is crushed in a molybdenum mortar. (1) 0.5 g Si is mixed with 0.5 ml 1% mannitol solution, 3 drops of a 5% copper-chloride solution (catalyst), 8 - 10 ml 25% H_2F_2 solution, and 5 ml H_2O_2 . The mixture is then dissolved by heating, mixed with 20 mg carbon powder, boiled down on a water bath, and subjected to spectrum analysis. (2) The mannitol solution and H_2F_2 are added to 1 g crushed SiO_2 ;

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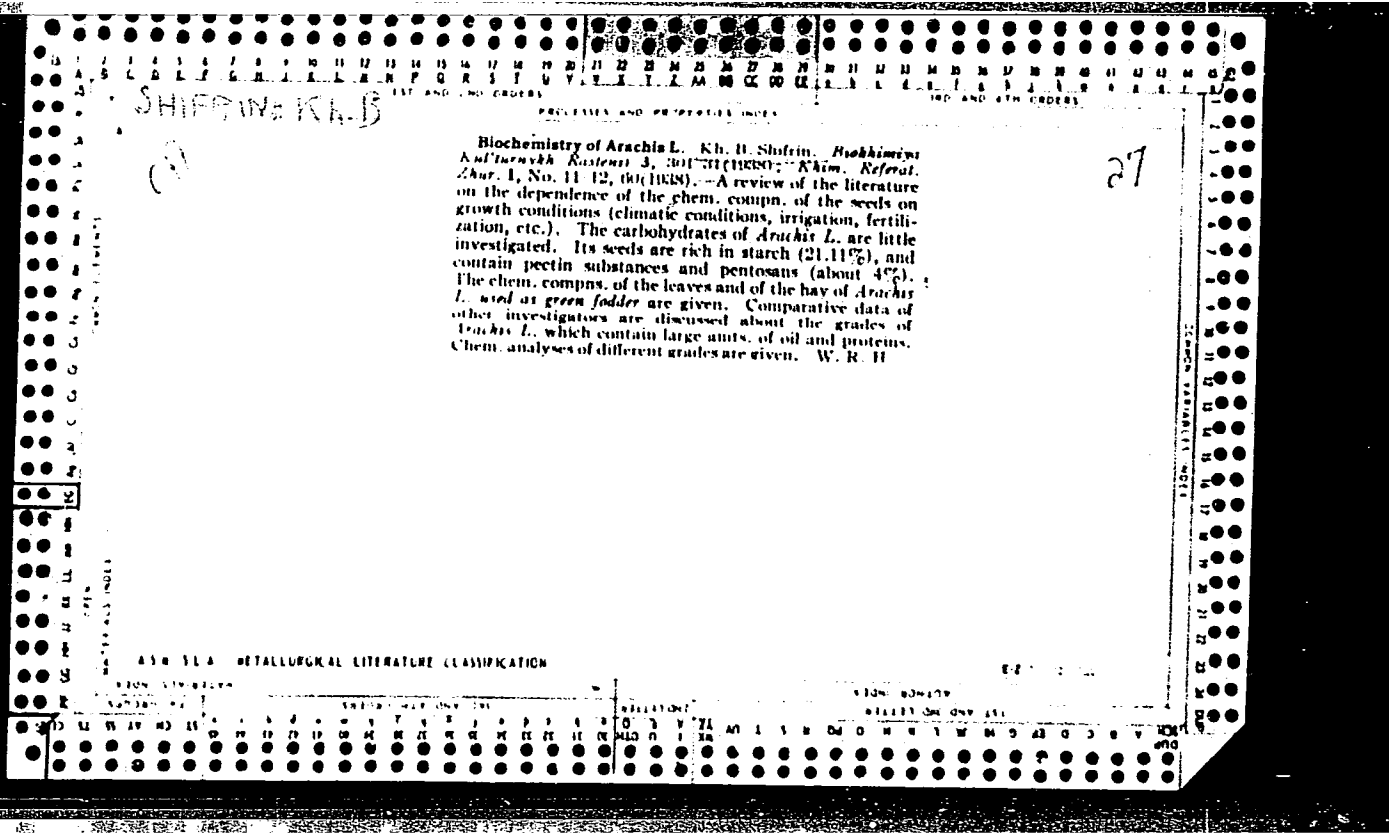
A spectrochemical method ...

S/032/62/028/006/008/025
B110/B101.

the analysis being the same as for Si. (3) 4 ml SiCl_4 or trichlorosilane cooled with dry ice is hydrolyzed with ~ 30 ml H_2O_2 and mannitol, then dissolved in 7 ml 45% H_2F_2 , and analyzed as described above. The concentrate mixed with 20 mg carbon powder was spectrophotometrically analyzed in the arc (2497.8 \AA) and compared with standard powders containing $1.5 \cdot 10^{-4}$, $5 \cdot 10^{-4}$, $1.5 \cdot 10^{-3}$, $5 \cdot 10^{-3}$, or $1.5 \cdot 10^{-2}\%$ B. The percentage content of boron was calculated from $x = a(C-b)/M$, where a is the added quantity of the concentrate, C is the percentage content of boron, b that of boron in the blank test, and M is the added quantity of the initial sample. Accuracy of the method: $1 \cdot 10^{-5}\%$ for Si, $5 \cdot 10^{-6}\%$ for SiO_2 , and $3-5 \cdot 10^{-7}\%$ for SiCl_4 and trichlorosilane. There are 1 figure and 1 table.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoj promyshlennosti) (State Design and Planning Scientific Research Institute of the Rare Metals Industry)

Card 2/2



SHIFRIN, K. B.

ca

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Biochemistry of walnuts [walnut oil]. Kh. B. Shifrin. *Biokhim. Kul'tur. Rastenii* 7, 421-33 (1940).—The max. and min. consts. of the oil of numerous varieties of walnuts are: d_4^{20} 0.9250, 0.9288; n_D^{20} 1.4758, 1.4809; solidification temp. -30° , -27° ; acetyl no. 4.6, 7.2; Reichert-Meissel value 0, 3.2; emulsification no. 188.7, 199.5, acid no. 0.77, 8.90; I no. 123.0, 166.0; percentage of emulsifying substances 0.50, 1.93. In comparative expts., walnut oil dried in 9 days and linseed oil in 12 days. Fifty references.

W. R. Henn

AS - SLA 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
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SHIFRINA, Kh. B.

Biochemical peculiarities of perennial onions. Biokhim. pl. 1
ovoshch. no.3:133-144 '55. (MLRA 8:11)

1. Moldavskaya ovoshche-kartofel'naya opyt'naya stantsiya Mini-
sterstva sel'skogo khozyaystva Moldavskoy SSR
(Onions)

SHIFRINA, KH.

USSR/Cultivated Plants - Potatoes, Vegetables, Melons.

M-3

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10852

Author : Shifrina, Kh.Inst : Moldavian Scientific Research Institute of Irrigated
Agriculture and Vegetable Husbandry.Title : The Chemical Composition of the Onion (*Allium cera*) in
MoldaviaOrig Pub : Zemledeliye i zhivotnovodstvo Moldavii, 1957, No 5,
72-73.Abstract : When 12 varieties of onion (*Allium cera*) were investiga-
ted in the Moldavia Scientific Research Institute of Ir-
rigated Agriculture and Vegetable Growing, it was deter-
mined that the salad group is distinguished by its low
content of dry substances (9-12 grams per 100 grams) and
saccharose (45-55% of the total sugars), in contrast to

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USSR/Cultivated Plants - Potatoes, Vegetables, Melons.

M-3

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001549410015-1

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10852

the sharp onions which have, correspondingly, 15-21 grams and 75-92%. The chemical composition remains the same year in and year out. The sharp onions store best. No weight loss by spring was noticed in the Strigunovskiy onion, while in the Vertyuzhanskiy onion losses comprised 5.5% and in the lettuce variety, Kab, they comprised 38%. When fried the sharp onions retain a large amount of their sugar (85%) and vitamin C (up to 50%). A description is given of the chemical composition of the Shalot onion (*Allium ascalonicum*) which is cultivated in several regions of Moldavia.

Card 2/2

SHIFRINA, Kh.B.

Sugar content of apples and vegetables grown under irrigation.
Biokhim.pl. i ovoshch. no.5:277-286 '59. (MIRA 13:1)

1. Moldavskiy filial Akademii nauk SSSR.
(Sugars) (Irrigation) (Plants--Chemical composition)

SHIFRINA, K. B., DVORNIKOVA, T. P., TIKHVINSKAYA, T. M., VASILYEVA, L. A.,
and ARASHOVICH, V. V. (USSR)

"Role of Polysaccharides in Storage and Processing of Fruits."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 Aug 1961

L 19683-65 EWT(1)/EWT(m)/EPP(o)/EPR/EWP(j)/T/EED(b)-3 Ps-1/Pr-1/Ps-1/Pag-2 IJP(c)/
ACCESSION NR: AP5003604 RFL WW/RM 8/0191/64/000/007/0036/0038

AUTHOR: Rogov, V. M.; Sairnov, V. B.; Skirdova, K. M.; Shifrina, Kh. E.; Gomozova,
Z. F.

TITLE: Question of printing on polyethylene films

SOURCE: Plasticheskiye massy, no. 7, 1964, 36-38

TOPIC TAGS: synthetic material, printing ink, dye chemical

Abstract: Recipes of printing dyes, mentioned in patent and literature sources, as well as various resins, were tested as bonding dyes for printing on polyethylene films. The tests determined their suitability for deep printing on a multidye machine, operating at a speed of 1.5-75 m/min; drying on polyethylene films (for 2-3 min at 70°C); aggregative stability of the printed dye (no less than 24 hours); stability of the imprints to dry and wet friction and to repeated banding (under a load of 600 grams). The dyes were applied on polyethylene films 60 ± 10 microns thick, the surface of which was treated: 1) with a chromic mixture at 75°C for three minutes; 2) with a corona discharge at a voltage of about 15-20 kilovolts; 3) with a corona discharge on a laboratory setup for 1 min at a voltage of 15 kilovolts and a distance between the electrodes of 2-3 min. Recipes and

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L 19683-65

ACCESSION NR: AP5003604

results of tests are given for dyes compiled according to recipes of
 foreign patents, dyes in the form of a solution of polyethylene in aromatic
 solvents, dyes based on polyamide resins, dyes based on versamide and
 epoxide resin, dyes based on methylolpolyamide resin MPP-1^b and methylolpoly-
 amide and epoxide resins, dyes based on copolymers of vinyl chloride and
 vinylbutyl ether, methacrylate and copolymers of methacrylic acid esters,
 and dyes based on alkyd resin. Preliminary treatment of the film was found
 to exert influence on the strength of the printed figure; the chemical method
 of treatment was most effective, but the electrical method is most suitable
 under industrial conditions and most economical. Orig. art. has 3 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MT, 00

NO REF SOV: 004

OTHER: 002

JRS

Card 2/2

SHIFRINA, P.N.

USSR/Analytical Chemistry - General Questions

G-1

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4659

Author : Shifrina, P.N.

Inst : Chkalov Chapter of the All-Union Chemical Society
imeni D. I. Mendeleev.

Title : Utilization of Sulfanthrol as a Reagent in Qualitative
Analysis.

Orig Pub : Vestn. Chkalovsk. otd. Vses. khim. o-va im. D.I.
Mendeleeva, 1956, No 6, 35-37

Abstract : A saturated solution of sulfanthrol in water forms with
the ions Hg^{2+} , Hg_2^{2+} , Ag, Pb, Cd, Sn, Sb, white precipi-
tates, with the cation Fe^{3+} a yellow-brown precipitate,
with Cr^{2+} a grey precipitate, with the cation Cu^{2+} a
pale green precipitate. The ions Co, Ni, alkali and al-
kaline earth metals produce no precipitates or colored
solutions. Sulfanthrol causes complete precipitation

Card 1/2

-7 -

SHIFRINA, P. N.

USSR/Soil Science. Physical and Chemical Properties of Soils.

I-3

Abs Jour: Referat Zh-Biol., No 6, 25 March, 1957, 22466

Author : Batalin, A. Kh., Shifrina, P.N.

Inst :

Title : The Content of Copper, Cobalt and Molybdenum in Some Soils
of the Chkalov Oblast'.

Orig Pub: Vestn. Chkalovsk. otd. Vses. khim. o-va im. D.I. Mendeleeva,
1956, No 6, 45-48.

Abstract: A brief report of results of determination of the Cu, Co and Mo content of soils of the Adamov Rayon of the Chkalov Oblast'. Two soil sections of slightly salty southern chernozem were tested. The soil preparation and analysis were conducted in accordance with the method suggested by the Institute of geochemistry and analytical chemistry, Academy of Sciences, USSR (Methods of Determining Trace Elements, Moscow, 1950). The content of the above-mentioned elements in the upper soil layer

Card : 1/2

-18-

SHIFRINA, R. S.

"Effect of Cortine on Carbohydrate Metabolism," Farmakol. i Toksikol., 5, No. 4, 1942. Mbr.,
Chair Biochemistry, a Medical Inst., -1942-.

SHIRINA, V. S.

"The Structure of the Phenolaldehyde Resins! XI. On the Nature of the Resinous Products of Condensation of Phenol with Formaldehyde," Zhur. Obshch. Khim., 12, Nos. 9-10, 1942. Mbr., Lab. Plastic Mass, Leningrad Chemico-Technol. Inst., -1942-.

SHIFRINA, V.
USSR/Electronics - Radio Relay Lines

Jan 53

"Principles of Radio Relay Communications," V. Shifrina

l "Radio," No 1, pp 14-16

Discusses characteristics of ^{cm}decimeter and ^{dm}centimeter waves, such as band width, directions, transmission, influence of atmospheric and man-made interference and range. Also discusses the economic advantages of radio relay communications.

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PHASE I BOOK EXPLOITATION

SOV/1640

Shifrina, V. S., and N. N. Samosatskiy

Polietilen vysokogo davleniya; spravochnoye rukovodstvo (High-pressure Polyethylene; a Manual) 2d ed., enl. Leningrad, Goskhimizdat, 1958. 89 p. (Series: Novyye plasticheskiye massy) 10,000 copies printed.

Ed. (Title page): S. V. Shchutskiy; Ed. (Inside book): Ye. I. Shur; Tech. Ed.: T. A. Fomkina.

PURPOSE: The book is intended for workers, foremen, engineers, and technicians employed in industries where plastic materials are used, i.e., in the chemical, electrical engineering, machine-building industries, and for employees in cable, television, and radio manufacturing enterprises.

COVERAGE: The book gives basic information on the production, properties, processing, and fields of application of polyethylene, a new plastic which is characterized by anticorrosive properties, high mechanical and dielectric indices, and frost resistance up to -80°C .

Card 1/ 4

High-pressure Polyethylene; a Manual

SOV/1640

Polyethylene finds application in the electrical industries, chemical industry, medicine, radio engineering, machine-building, manufacturing of toys, wrapping materials, and in household uses.

The author states that the production of polyethylene will be increased eightfold by the end of 1965 according to the resolution of the May Plenum of the Central Committee of the Communist Party. No facilities or personalities are mentioned. There are no references.

TABLE OF CONTENTS:

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Methods of Production of Polyethylene	5
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High-pressure Polyethylene; a Manual

SOV/1640

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AVAILABLE: Library of Congress

TM/flc
6-13-59

Card 4/4

SHIFRINA, Vitta Samsonovna; SAMOSATSKIY, Nikolay Nikolayevich; SHCHUTSKIY,
~~S.V., red.; SHUR, Ye.I., red.; ERLIKH, Ye.Ya., tekhn. red.~~

[Polyethylene production and properties] Polietilen; poluchenie i
svoistva. Pod red. S.V.Shchutakogo. Izd.3., dop. i ispr. Leningrad,
Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1961. 174 p.

(MIRA 14:8)

(Polyethylene)

PHASE I BOOK EXPLOITATION SOV/5960

Shifrina, Vitta Samsonovna, and Nikolay Nikolayevich Samosatskiy
Polietilen; pererabotka i primeneniye (Polyethylene; Processing
and Use) Leningrad, Goskhimizdat, 1961. 261 p. 13,000 copies
printed.

Ed. (Title page): S.V. Shchutskiy; Ed.: Z.I. Griva; Tech. Ed.:
T.A. Fomkina.

PURPOSE: This book is intended for technical personnel, foremen,
and innovators in the chemical, electrical- and radio-engineer-
ing, television and communications, cable, and machine-building
industries, and in other branches of industry where plastics are
processed or utilized.

COVERAGE: The handbook describes modern methods widely used in
Soviet and non-Soviet countries in processing polyethylene.
Extrusion, die casting, stamping, welding, and other processes

Card 1/5

Polyethylene; Processing (Cont.)

SOV/5960

are discussed. Descriptions, illustrations, and diagrammatic drawings of equipment are given. No personalities are mentioned. There are 79 references: 18 Soviet, 40 English, 3 French, and 18 German.

TABLE OF CONTENTS [Abridged]:

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Extrusion Methods for the Processing of High-Pressure Polyethylene	5
Granulation of polyethylene	5
Extrusion machines	11
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Card 2/5

KOZLOV, Pavel Vasil'yevich, prof.; BRAGINSKIY, Gerts Irmovich, dots.;
Prinimali uchastiye: SHIFRINA, V.S.; KHARIT, Ya.A.;
KOROSTYLEV, B.N.; SOROKINA, R.A.; ZHERDETSKAYA, N.N., red.

[Chemistry and technology of polymer films] Khimia i tekhnologiya polimernykh plenok. Moskva, Iskusstvo, 1965. 623 p.
(MIRA 18:7)

SHIFRINA, Ye.M.

[Sunbeams and their transformation] Solnechnyi luch i ego prevrashcheniia.
Leningrad, Gidrometeorologicheskoe izd-vo, 1953. 98 p. (MLRA 6:10)
(Solar radiation)

SHIFRINA, Ye.M.[author]; KOSOUROV, G.I., kandidat fiziko-matematicheskikh nauk
[reviewer].

Conversion of solar radiation ("Solar radiation and its conversion." E.M.
Shifrina. Reviewed by G.I.Kosourov.) Nauka i zhizn' 20 no.8:46-47 Ag '53.
(MLRA 6:8)

(Shifrina, E.M.) (Solar radiation)

SHIFRINSON B. L. F. PROCESSES AND PROPERTIES INDEX

2801. REGIONAL HOT WATER SUPPLY. Shifrinson, B., Saks, M., Kopyev, C. and Ptk, M. (Promishlennaya Energetika, 1946, No.2, 6-8, 9-10; Ingers Digest, Jan. 1947, 2, 30).

The initial water temperature for district heating should be as high as possible. 130 deg. C. is regarded as a standard, 150 deg. C. or even 180 deg. C. is quite feasible. The selection of a suitable return-water temperature depends on the way in which the water is utilized or on the proportion of the various kinds of loading. Formulae and nomograms for the calculation of both initial and final temperatures are given. Based on Russian costs they cannot be applied directly to the planning of installations in this country. Observations made at central power plants No.2 and 3 at Leningrad showed that cutting off the entire domestic load, representing 25 per cent of the total, could not be detected on the power plant instruments. It was, therefore, proposed in Leningrad to set the flow through the boilers of the principal consumers to a constant value, as calculated by means of a diaphragm and to leave it so adjusted for the whole season. Heat

ASH-31A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS

OPEN

MATERIALS INDEX

PROCESSES AND PROPERTIES INDEX

NO AND 4TH CODES

2801

SHIFRINSON B. L. F.

REGIONAL HOT WATER SUPPLY

SHIFRINSON, B., SAKS, M., KOPYEV, C. AND PTK, M.

PROMISHLENNAYA ENERGETIKA, 1946, NO. 2, 6-8, 9-10; INGENERS' DIGEST, JAN. 1947, 2, 30.

THE INITIAL WATER TEMPERATURE FOR DISTRICT HEATING SHOULD BE AS HIGH AS POSSIBLE. 130 DEG. C. IS REGARDED AS A STANDARD, 150 DEG. C. OR EVEN 180 DEG. C. IS QUITE FEASIBLE. THE SELECTION OF A SUITABLE RETURN-WATER TEMPERATURE DEPENDS ON THE WAY IN WHICH THE WATER IS UTILIZED OR ON THE PROPORTION OF THE VARIOUS KINDS OF LOADING. FORMULAE AND NOMOGRAMS FOR THE CALCULATION OF BOTH INITIAL AND FINAL TEMPERATURES ARE GIVEN. BASED ON RUSSIAN COSTS THEY CANNOT BE APPLIED DIRECTLY TO THE PLANNING OF INSTALLATIONS IN THIS COUNTRY. OBSERVATIONS MADE AT CENTRAL POWER PLANTS NO. 2 AND 3 AT LENINGRAD SHOWED THAT CUTTING OFF THE ENTIRE DOMESTIC LOAD, REPRESENTING 25 PER CENT OF THE TOTAL, COULD NOT BE DETECTED ON THE POWER PLANT INSTRUMENTS. IT WAS, THEREFORE, PROPOSED IN LENINGRAD TO SET THE FLOW THROUGH THE BOILERS OF THE PRINCIPAL CONSUMERS TO A CONSTANT VALUE, AS CALCULATED BY MEANS OF A DIAPHRAGM AND TO LEAVE IT SO ADJUSTED FOR THE WHOLE SEASON. HEAT

ASH-31A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS

OPEN

MATERIALS INDEX

PROCESSES AND PROPERTIES INDEX

NO AND 4TH CODES

2801

SHIFRINSON B. L. F.

REGIONAL HOT WATER SUPPLY

SHIFRINSON, B., SAKS, M., KOPYEV, C. AND PTK, M.

PROMISHLENNAYA ENERGETIKA, 1946, NO. 2, 6-8, 9-10; INGENERS' DIGEST, JAN. 1947, 2, 30.

THE INITIAL WATER TEMPERATURE FOR DISTRICT HEATING SHOULD BE AS HIGH AS POSSIBLE. 130 DEG. C. IS REGARDED AS A STANDARD, 150 DEG. C. OR EVEN 180 DEG. C. IS QUITE FEASIBLE. THE SELECTION OF A SUITABLE RETURN-WATER TEMPERATURE DEPENDS ON THE WAY IN WHICH THE WATER IS UTILIZED OR ON THE PROPORTION OF THE VARIOUS KINDS OF LOADING. FORMULAE AND NOMOGRAMS FOR THE CALCULATION OF BOTH INITIAL AND FINAL TEMPERATURES ARE GIVEN. BASED ON RUSSIAN COSTS THEY CANNOT BE APPLIED DIRECTLY TO THE PLANNING OF INSTALLATIONS IN THIS COUNTRY. OBSERVATIONS MADE AT CENTRAL POWER PLANTS NO. 2 AND 3 AT LENINGRAD SHOWED THAT CUTTING OFF THE ENTIRE DOMESTIC LOAD, REPRESENTING 25 PER CENT OF THE TOTAL, COULD NOT BE DETECTED ON THE POWER PLANT INSTRUMENTS. IT WAS, THEREFORE, PROPOSED IN LENINGRAD TO SET THE FLOW THROUGH THE BOILERS OF THE PRINCIPAL CONSUMERS TO A CONSTANT VALUE, AS CALCULATED BY MEANS OF A DIAPHRAGM AND TO LEAVE IT SO ADJUSTED FOR THE WHOLE SEASON. HEAT

consumption of the whole district was reduced to a greater extent than by resorting to a reduction in mains water temperature below specification value. In the case of systems in which the mains temperature does not exceed 100 deg. C., this type of control is applicable. But if the mains contain water of a higher temperature the absence of regulators may result in boiling of the secondary water. In such cases it is necessary to control the temperature of the secondary water.

SHIPPINSON, G. L., Engineer

"Method for Determining the Wire Cross Sections in Municipal Electric Power Lines."
Thesis for degree of Cand. Technical Sci. Sub 21 Feb 50, Academy of Municipal
Economy imeni K. D. Pamfilov

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and
Engineering in Moscow in 1950. From Vechernyaya Moskva. Jan-Dec. 1950.

SHIFRINSON, B. L.

112-2-3110

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957,
Nr 2, p. 83 (USSR)

AUTHOR: Shifrinson, B. L.

TITLE: Problems Related to the Redesigning of City Electric-Power
Distribution Networks (Voprosy rekonstruktsii skhem
elektrosnabzheniya gorodov)

PERIODICAL: In Sbornik: Vopr. postroyeniya gor. elektr. setey.
Moscow, M-vo kommun. kh-va RSFSR, 1956, pp. 5-32

ABSTRACT: Based on the experience of four cities, Astrakhan,
Ul'yanovsk, Michurinsk and Usman', the outlook is examined
for the development of an electric power-supply network
for cities which are to be supplied in the very near future
from a powerful central source. The construction of a
110-kv substation is justified for cities of the size of
Usman' (10 to 50 thousand inhabitants) it serves at the
same time as a supporting point for supplying the outlying
agricultural area. For cities of 50 to 100 thousand
inhabitants where there is a developed 6-kv network carrying

Card 1/2

112-2-3110

Problems Related to the Redesigning of City Electric-Power (Cont.)

loads of as much as 20,000-kva, it is recommended to construct one, and where the loads vary from approximately 30 to 40 thousand kva, two 35/6-kv deep lead-in distribution substations. For cities of 100 to 300 thousand inhabitants like Ul'yanovsk, the deep lead-in 110-kv distribution substation could be the most economical in the central districts of the city. Larger cities like Astrakhan require several deep lead-in 110-kv substations. It is possible to construct simplified deep lead-ins with one-transformer substations. Depending on the density of the load π kva/km², the most advantageous capacity for distributing points in a 6-kv network is $RRP = 2,500 + 65\sqrt{\pi}$. An optimum system of electric-power supply for a "theoretical" city of 100 thousand inhabitants and 11-km² area is also discussed. The source of power on the outskirts of the city is at an average distance of 4.5 km from the transformer point. When the load density is less than 2000 kva/km² the most efficient is a two voltage network. When the load is 3000 kva/km² the most advantageous is a three voltage network with two 35/6-kv substations.

Ya.M.Ch.

Card 2/2

SHIFRINSON, B.L., kand.tekhn.nauk

Domestic consumption of electric power. Elektrichestvo no.2:76-78 F '61.
(MIRA 14:3)

1. Akademiya kommunal'nogo khozyaystva im. K.D. Pamfilova.
(Electric power)

SHIFRINSON, B.L.

Conditions of gas consumption for the preparation of food in
apartments. Sbor. nauch. rab. AKKH no.9:117-125 '61. (MIRA 16:1)
(Gas cooking)

BESSMERTNYI, I.S., kand.tekhn.nauk; SHIFRINSON, B.L., kand.tekhn.nauk;
TUSHINA, A.A., inzh.; Primalni uchastiye: GOGICHAISHVILI, P.F.,
kand.tekhn.nauk; MAKARISHCHEV, A.S., inzh. [deceased]

[Installation and adjustment of an experimental section of a closed-
loop low-voltage power distribution network] Ustroistvo i naladka
opytnogo uchastka zamknutoi elektroseti nizkogo napriazheniia.
[Leningrad] 1962. 26 p. (Informatsionnoe pis'mo, no.3). (MIRA 16:8)

. Glavnyy inzh. Podol'skogo otdeleniya Moskovskogo oblastnogo
upravleniya elektrostantsiy i elektrosetey (for Makarishchev).
(Electric power distribution)

SHIFTIN, S.M., doktor tekhn.nauk; MISHUKOV, B.G., inzh.

Purification of waste waters from milk plants. Vod. i san. tekhn. no.9:
6-9 S '63. (MIRA 17:2)

SHIGABUTDINOV, Kh., TABAKOV, Yu.

Fire safety appliances for mobile wide-film movie projectors.
Pozh.delo 3 no.4:18-19 Ap '57. (MIRA 10:7)
(Motion picture projection--Safety measures)

OKSMAN, I.M., prof.; SHIGABUTDINOV, Sh.S.

Plastic luminescent stomatological spatula. Kaz.med.zhur. 40
no.1:90-91 Ja-F '59. (MIRA 12:10)

i. Iz kafedry ortopedicheskoy stomatologii (zav. - prof.I.M.
Oksman) Kazanskogo meditsinskogo instituta.
(SPATULA)

SHIGABUTDINOVA, S.S.

GERM

USSR

Chemical and technological characteristics of Turkmenistan apples. N. V. Boltentkov and S. S. Shigabutdinova. *Izvest. Akad. Nauk Turkm. S.S.R.* 1953, No. 5, 45-50; *Referat. Zhur., Khim.* 1954, No. 42435. — A study of apple varieties Golden Grime, Rosmarin, Renet Simirenko, and Bellefleur showed that their sugar content reaches 12-14%, acidity 0.18-0.49%, and vitamin C 12-20 mg. %. In cellar storage most resistant was Renet Simirenko which kept till March and the least was Bellefleur which kept only till December. M. Hosh

SHIGABUTDINOV, T.S.; MENEKEYEV, Kh.S.

Experimental study of the durability of steel dental drills.
Vop. obshchei stom. 17:25-26 '64.

(MIRA 18:11)

BUDNIK, G.I., kand.ekon.nauk; AVDAKOV, Yu.K., dotsent, kand.ekon.nauk;
 SARYCHEV, V.G., kand.ekon.nauk; PREOBRAZHENSKIY, A.A., kand.
 istor.nauk; AVDAKOV, Yu.K., dotsent, kand.ekon.nauk; POLYANSKIY,
 F.Ye., prof., doktor istor.nauk; ZUTIS, Ya.Ya. [Zutis, J.];
 GULANYAN, Kh.G., prof., doktor ekon.nauk; GULANYAN, Kh.G., prof.,
 doktor ekon.nauk; KONYAYEV, A.I., dotsent, kand.ekon.nauk;
 KHROMOV, P.A., prof., doktor ekon.nauk; SHALASHILIN, I.Ye., dotsent,
 kand.ekon.nauk; SHEMYAKIN, I.N., dotsent, kand.ekon.nauk; POGRE-
 BINSKIY, A.P., prof., doktor ekon.nauk; ORLOV, B.P., dotsent, kand.
 ekon.nauk; TYUSHEV, V.A., kand.ekon.nauk; BALASHOVA, A.V., kand.
 ekon.nauk; MOZHIN, V.P., kand.ekon.nauk; MINDAROV, A.T., dotsent,
 kand.ekon.nauk; SHIGALIN, G.I., prof., doktor ekon.nauk; GOLUBNI-
 CHIY, I.S., prof., doktor ekon.nauk; VOSKRESENSKAYA, T., red.;
 BAKOVETSKIY, O., mladshiy red.; MOSKVINA, R., tekhn.red.

[History of the national economy of the U.S.S.R.; lecture course]
 Istorii narodnogo khoziaistva SSSR; kurs lektsii. Moskva, Izd-vo
 sotsial'no-ekon.lit-ry, 1960. 662 p. (MIRA 13:5)

1. Daystvitel'nyy chlen AN Latvyskoy SSR (for Zutis).
 (Russia--Economic conditions)

MASALOV, A., tekhnik-mekhanik (Ufa); KORNILOV, M., inzh.; SHIGANOV, A.,
(Chernigov); DUMIN, A., inzh. (Leningrad); AYUPOV, S., slesar'-
instrumental'shchik (g.Kirovsk, Leningradskoy oblasti);
DROBYSHEVSKIY, V., inzh.; VENEDIKTOV, V. (Sverdlovsk)

Suggested, developed, introduced. Izobr.i rats. no.1:40-42
Ja '60. (MIRA 13:4)

(Technological innovations)

GEL'FOND, S. (g.Odessa); SHIGANOV, A. (g.Chernigov); SMETANINA, Z., pryadil'-
shchitsa, udarnik kommunisticheskogo truda; DIL'DIN, M., rabochiy;
SKRIPKIN, P. (g.Ulan-Ude); FILIPPOV, A. (g.Petropavlovsk); CHERNYKH,
Vl. (g.Kursk)

From letters to the editors. Sov. profsoiuzy 16 no.21:54-57 N '60.
(MIRA 13:10)

1. Fabrika imeni Balashova, g.Ivanovo (for Smetanina). 2. Sovkhoz
"Teplichnyy", Moskovskaya obl. (for Dil'din).
(Trade unions)

SHIGANOV, M.V.

Some problems of planning in the pharmacy system. Apt.delo 5 no.6:
25-27 M-D '56. (MIRA 10:1)

1. Zaveduyushchiy planovo-finansovym otdelom Kalininskogo oblastnogo
otdeleniya Glavnogo aptekoupravleniya.
(PHARMACY)

SHIGANOV, N. N.

LOCAL ELASTIC AND PLASTIC DEFORMATIONS IN THE PROCESS OF WELDING A BEAD ON A PLATE. N. N. Shiganov, and A. V. Mordvintseva. (Avtogennoe Delo, 1948, No. 2, pp. 12-15). (In Russian). The results are graphically presented of experiments in which the deformation and strain were determined in plates which had been bead-welded along their edges. The plates were 10 mm. thick, and had lengths of 20, 40, 60, 80, 100 and 180 mm. It was found that for this type of process, increasing plate width up to a given limit increased the tendency to cold cracking through both increased deformation during cooling and quicker elastic-plastic deformation. The deformation was found to decrease with increasing temperature of welding when second layer was welded on. Water cooling of the weld was found to decrease the residual strain, the maximum effect being obtained when the stream of water followed the arc so as to strike the metal at a temperature of 225-275°.

Immediate source clipping

SHIGANOV, N. V.

"Influence of Active Forces on Stresses and Deformations During
Welding." Sub 29 Dec 47, Moscow Order of the Labor Red Banner Higher
Technical School imeni N. E. Bauman

(Cand. Tech Sci)

Dissertations presented for degrees in science and engineering
in Moscow in 1947.

SO: Sum. No. 457, 18 Apr 55

SHIGANOV, N. V.

PA-4T31

USSR/Welding - Strength
Joints, welded

Mar 1947

"Equal Durability of Welded Butt-joints, " N. N. Prokhorov, N. V. Shiganov,
and A. V. Mordvintseva, 4 pp

"Avtoemnoye Delo" No 3

Discussion with tables, microphotos and diagrams. The conclusion, among others,
is reached that the low durability of this type of welding, as shown by statis-
tics, is due to the imperfect form of the joints, and the presence in them of
undercuts and poor penetrations.

16

B

***206. Mechanical Tensometer for Determination of Deformation in Bodies During Temperature Changes.** (In Russian.) N. N. Prokhorov, N. V. Shiganov, and A. V. Mordvintseva. *Zavodskaja Laboratoriya* (Factory Laboratory), v. 13, Sept. 1947, p. 1148-1149.
 Above apparatus is described and diagrammed and typical results obtained with it are presented.

METALLURGICAL LITERATURE CLASSIFICATION

ALPHABETIC INDEX	CYRILLIC INDEX	NUMERIC INDEX
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	А Б В Г Д Е Ж З И Й К Л М Н О П Р С Т У Ф Х Ц Ч Ш Щ Ъ Ы Ь Э Ю Я	01 02 03 04 05 06 07 08 09 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 00

3
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

LIST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

A

K

22a-105. Local Elastic and Plastic Deformation During the Welding of Rods Onto Sheets. (In Russian.) N. N. Prokhorov, N. V. Shiganov, and A. V. Mordvinatseva. *Autogenno Delo* (Welding), Feb. 1948, p. 12-15.

Results of investigations show that deformation often takes place in cooling, resulting in cracks. The rate and amount of this deformation increases with increased plate width. Proposes cooling the zone adjacent to the weld by means of water.

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

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND LETTERS

2ND LETTERS

1ST AND 2ND LETTERS

3RD AND 4TH ORDERS

3RD AND 4TH ORDERS

5TH AND 6TH ORDERS

5TH AND 6TH ORDERS

7TH AND 8TH ORDERS

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95TH AND 96TH ORDERS

95TH AND 96TH ORDERS

97TH AND 98TH ORDERS

97TH AND 98TH ORDERS

99TH AND 100TH ORDERS

99TH AND 100TH ORDERS

SHIGANOV, N. V. and PROKHOROV, N. N.

Proizvodstvo svarnykh mnogo-sloinykh sosudov vysokogo davleniia. (Vestn. Mash., 1948,
no. 6, p. 33-37)

Production of welded multilayer high-pressure vessels.

DLC: TN4, V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress,
1953.

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

FIRST AND SECOND ORDERS PROCESSES AND PROPERTIES INDEX

a K

298-K. Elimination of Deformation During Structural Welding. (In Russian.) G. A. Nikolayev and N. V. Shiganov. *Vestnik Mashinostroeniya* (Bulletin of the Machine Construction Industry), v. 30, Jan. 1950, p. 48-52.

Investigated theoretically and experimentally. Application of an external load to the parts during their welding is recommended as a method of avoiding residual deformation. Influence of geometry, physical and mechanical properties of the metal, welding conditions, and types and amounts of stresses applied were studied. (K general. CN)

ASB-SLA 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

SHIGANOV, N.V.

135-12-4/17

AUTHOR: Shiganov, N.V., Candidate of Technical Sciences, and Raymond,

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001549410015-1

TITLE: Arc Pressure Measurement in Welding in Argon Medium and Under Flux (Izmereniye davleniya dugi pri svarke v srede argona i pod flyusom)

PERIODICAL: Svarochnoye Proizvodstvo, 1957, # 12, p 13-17 (USSR)

ABSTRACT: The described experiments were performed in the course of development work on welding technology for an intricate thin sheet (1-2 mm) design. The material frequently burned through in all attempts of automatic welding, even when a copper underlay plate was used. Only welding in argon with a non-melting electrode was successful. It was then assumed that the major cause of burning-through in the former attempts was the arc pressure, and that successful welding of such thin material could be possible also in other ways than with a tungsten electrode in argon, as for instance welding under flux or in CO₂, provided the arc pressure is sufficiently low. The A.V. Petrov's "quadrant balance" (Ref. 8) for measuring the arc pressure (on a vertical wall) was modified as shown by a schematic.

SHIGANOV N.V.

AUTHORS: Shiganov, N.V., and Raymond, E.D. 125-58-5-13/13

TITLE: Electric Arc Welding of Thin-Sheet Metal With a Thin Electrode Wire (Elektrodugovaya svarka tonkolistovogo metalla tonkoy elektrodnoy provolokoy)

PERIODICAL: Avtomaticheskaya Svarka, 1958, Nr 5, pp 92-96 (USSR)

ABSTRACT: The automatic welding device "ADMT-100" and the technology described in the article were developed after experiments conducted in 1954-1956. The device can be used for automatic and semi-automatic flux, as well as for shielded arc welding with electrode wires of 0.5, 0.3 and 0.2 mm diameter, without copper or other supports on the rear side of thin sheets being joined. The base metal can be 1.5 mm and thinner. This pistol-gripped welder permits welding in difficult positions, and can be used also for automatic welding when it is attached to a carriage. The conventional hoses are eliminated by mounting a small wire reel and a small wire feed-motor directly on the welding head. The device is shown in the drawing (Fig. 1). The operation technology for butt and lap welds on thin sheet steel is shown in a chart along with macro-

Card 1/2

125-58-5-13/13

Electric Arc Welding of Thin-Sheet Metal With a Thin Electrode Wire

photographs of resulting joints. There are 2 figures and
1 chart.

SUBMITTED: October 16, 1957

AVAILABLE: Library of Congress

Card 2/2

GHIGANOV, N. V. (Candidate of technical Sciences)

"Methods and results of determining the susceptibility of welded joints of steels to cold cracks". This method gives the possibility rationally to select the basic metal, the proper welding rod, the type of welding and the heat treatment.

Report presented at the regular conference of the Moscow city administration NTO Mashprom, April 1963.

(Reported in Avtomaticheskaya Svarka, No. 8, August 1963, pp 93-95, M. M. Popekhin)

JPRS24,651 - 19 May 64

YEVSIKOV, Anatoliy Vasil'yevich, kand.tekhn.nauk; POPOV, Viktor Yakovlevich, kand.tekhn.nauk; ~~SHIGANOV, V.V., inzh.~~, retsenzent; VOSKRESENSKIY, N.N., inzh., red.; SAVEL'YEV, Ye.Ya., red.izd-va; TIKHANOV, A.Ya., tekhn.red.

[Manufacture and repair of diesel fuel systems] Tekhnologiya proizvodstva i remonta toplivnoi apparatury dizelei. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1958. 305 p.
(MIRA 12:2)

(Diesel engines--Fuel systems--Maintenance and repair)

SHIGANOVA V. L.

GOLUBEVA, I.V.; SHIGANOVA, V.L.

Treatment of dysentery with antiphagin components. Zhur. mikrobiol.
epid. i immun. no.8:88 Ag '54. (MLRA 7:9)

1. Iz Moskovskogo instituta epidemiologii i mikrobiologii im.
Mechnikova.
(DYSENTERY)

SHIGANOVA, V. L.

SHIGANOVA, V. L.: "Treating dysentery patients with Bernhof's preparation".
Moscow, 1955. Min Health USSR. Central Inst for Advanced Training
of Physicians.
(Dissertations for the degree of Candidate of Medical Sciences.)

SO: Knizhnava Letopis' No. 50. 10 December 1955. Moscow.

KADEN, M.M.; TIMEN, Ya.Ye.; MOROZOVA, M.M.; SHIGANOVA, V.L.; BUTUZOVA, L.P.

Effect of antibiotic therapy on the clinical course and immunological reactivity of the organism of patients with typhoid and paratyphoid fevers. Antibiotiki 6 no.1:50-54 Ja '61. (MIRA 14:5)

1. Moskovskiy nauchno-issledovatel'skiy institut vaktsin i syvorotok imeni I.I.Mechnikova i 2-ya klinicheskaya gorodskaya infektsionnaya bol'nitsa. (CHLOROMYCETIN) (TYPHOID FEVER) (PARATYPHOID FEVERS)

SHIGANSKAYA V.M.
CHEBOTAREV, D.F., prof.: SHIGANSKAYA V.M.

Diagnosis of achylia gastrica without using a sound. Vrach.delo
no.2:121-123 F '58. (MIRA LI:3)

1. Kafedra terapii I (zav.-prof. D.F.Chebotarev) Kiyevskogo
instituta usovershenstvovaniya vrachey.
(STOMACH--DISEASES)

SHIGANSKAYA, V.M.

Changes in the color sedimentation test of urine in various
inflammatory suppurative processes in the lungs. Lab. delo 8
no.2:50 F '62. (MIRA 15:2)

1. 1-ya kafedra terapii (zav. - prof. D.F. Chebotarev) Kiyevskogo
instituta usovershenstvovaniya vrachey.
(URINE ANALYSIS AND PATHOLOGY) (LUNGS DISEASES)

SHIGAPOV, Kh., inzh.

They reconstructed the elevator built in 1914. Muk.-elev. prom.
28 no.10:17-18 0 '62. (MIRA 16:1)

1. Belebeyevskiy khlebopriyemnyy punkt.
(Belebey District--Grain elevators)

SHIGAPOV, Sh.

The club and primary organizations. Voен. znan. 38 no.7:30-31
Jl '62. (MIRA 15:6)

1. Nachal'nik Kazanskogo strelkovo-sportivnogo kluba Dobrovol'-
nogo obshchestva sodeystviya armii, aviatsii i flotu, Tatarskaya
ASSR.

(Shooting)

S/126/60/010/005/009/030
E021/E406

AUTHORS: Gulyayev, A.P. and Shigarev, A.S.

TITLE: The Formation of Martensite at High Rates of Deformation

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.5, pp.691-697

TEXT: Two steels were tested: X15H9Ю (Kh15N9Yu) (0.07% carbon, 14.9% chromium, 8.9% nickel and 1% aluminium) and X12F1 (Kh12F1) (1.4% carbon, 11.2% chromium and 0.7% vanadium). The following three methods of deformation were used: static compression (2 mm/min); impact (250 m/sec); and explosion (5000 m/sec). Quenching temperatures were chosen so that the steels contained approximately 8% martensite. The results of the experiments showed that as the amount of plastic deformation decreased, the amount of martensite formed also decreased. In the zones where plastic deformation was absent, no increase in the amount of martensite was observed. As the rate of deformation during the impact experiments (or the pressure developed during the explosion) increased, the quantity of martensite formed also

Card 1/3

S/126/60/010/005/009/030
E021/E406

The Formation of Martensite at High Rates of Deformation

increased. This must have been connected with the greater degree of transverse deformation. Martensite formed along a greater length in the samples of the Kh12F1 steel in the impact experiment because this steel had a lower plasticity, and deformed less in a transverse direction. In the explosion experiments this steel broke with a brittle fracture with no trace of plastic deformation, and no increase in martensite was observed. The method of deformation which led to the formation of the greatest quantity of martensite also gave the biggest increase in hardness. On the other hand, the method which required the greatest degree of deformation to form a given quantity of martensite also produced the biggest increase in hardness. Fig.8 shows the increase in hardness against the increase in quantity of martensite. Curves 1, 2 and 3 are for the static compression, explosion and impact experiments respectively. There are 8 figures, 3 tables and 15 references: 7 Soviet and 8 Non-Soviet.

Card 2/3

Vovk, A.A.; SHIGAYEV, A.M.

Repair of ties in the division. Put' i put. khoz. 9 no. 1:20-31
'65 (MIRA 18:2)

1. Glavnyy inzh. sluzhby puti, Irkutsk, Vostochno-Sibirskoy dorogi (for Vovk). 2. Starshiy master Irkutskoy distantstii puti Vostochno-Sibirskoy dorogi (for Shigayev).

1.1710

also 4016, 1413, 1454

22546
S/129/61/000/005/002/003
E111/E152

AUTHORS:

Gulyayev, A.P., Professor, Doctor of Technical Sciences,
and Shigarev, A.S., Engineer.

TITLE:

Thermal-mechanical treatment of steel and its influence
on mechanical properties

PERIODICAL:

Metallovedeniye i termicheskaya obrabotka metallov,
1961, No. 5, pp. 9-12

TEXT:

The work described had the object of finding the
influence of changes in the degree of deformation in thermo-
mechanical treatment on the mechanical properties of a steel
(0.50% C, 1.55 Cr, 4.0 Ni, 0.31 Mo, 0.27 Mn, 0.25 Si, $M_s = 250$ °C,
AC1 730°, Ac3 810°). 45 x 45 mm blanks were forged from
150 x 150 x 300 mm ingots and annealed at 1200 °C for 10 hours.
In some experiments the properties obtained by ordinary heat
treatment (oil quenching from 900 °C, tempering at 50-700 °C
approx.) were studied. In the main experiments 20 x 30 x 65 mm
specimens were deformed on a 100-ton press at 900 or 550 °C
(actually 800-900 and 500-550 °C); some specimens were then oil
quenched and others soaked at 320 °C for 2 hours (molten tin).

Card 1/3

22546

S/129/61/000/005/002/003
E111/E152

Thermal-mechanical treatment of steel and its influence on mechanical properties

Impact and tensile test pieces were machined from the treated specimens and tempered at 100 °C before testing. For deformation at 900 °C followed by oil quenching the tensile strength rose continuously with rising degree of deformation (up to 90%); the toughness curve approached a limiting value, while the yield point, elongation and reduction in area behaved in a more complicated way due to the influence of variations in residual austenite content. In general both strength and plasticity were higher with 90% deformation than without, tensile strength 270 kg/mm², yield point 190 kg/mm², elongation 9%, decrease in cross-sectional area 22%, toughness 4 kg.m/cm²; the corresponding values without deformation but with oil quenching being 240, 175, 6, 9, 2. With isothermal soaking after deformation at 900 °C the strength and plasticity values were not nearly so good as with the quenching; variations in residual-austenite content were similar, increasing at small deformations and decreasing with large. Deformation (up to 35%) at 550 °C followed by oil quenching showed that yield point and toughness vary with

Card 2/ 3

22546
S/129/61/000/005/002/003
E111/E152

Thermal-mechanical treatment of steel and its influence on mechanical properties

deformation as in the 900 °C-experiments; plasticity falls to 15-17% deformation and then rises to the highest value at 35%; tensile strength rises steadily. With isothermal soaking (giving bainite) after deformation at 550 °C all the mechanical properties deteriorated with increasing deformation (up to 35%); the authors suggest this aspect needs further study.

There are 3 figures and 1 table.

ASSOCIATION: TsNIICHM

X

Card 3/3

SHIGAREV
GULEAEV, A. P. [Gulyayev, A. P.]; SIGAREV, A. S. [Shigarev, A. S.]

Thermomechanical treatment of steel, and its influence on mechanical properties. Analele metalurgie 15 no.4:110-113 Q-D '61.

(Steel--Heat treatment)

18.1285 1418 1496

33466
S/129/62/000/001/009/011
E073/E335

AUTHOR: Shigarev, A.S., Engineer
TITLE: Thermomechanical treatment of titanium alloys
PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
no.1, 1962, 42-44 + 1 plate

TEXT: The influence was investigated of thermomechanical treatment on the mechanical properties of BT3-1 (VTZ-1) titanium alloys. The specimens were subjected to deformation and water-quenching after holding for 30 min at 850 and 950°C. Some of the specimens were then tempered at 500°C for 2 hours. It was found that the strength of the alloy increased with increasing deformation; a 90% reduction at 850°C increased tensile and yield strength by 30 and 58 kg/mm², respectively. The corresponding figures for 900°C are 25 and 35 kg/mm². Maximum ductility was obtained after a 60% reduction at 850°C (≈14% elongation, 32% reduction of area) or a 35% reduction at 900°C (≈15% elongation, 38% reduction of area). The presence of residual β-phase is considered to be one of the factors responsible for increased ductility. Ductility drops with a
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33466

S/129/62/000/001/009/011

E073/E335

Thermomechanical treatment ...

further increase in reduction. Tempering reduces the amount of residual β -phase and causes a further increase in strength; the latter effect was especially pronounced in specimens deformed at 850°C with a 40% reduction. After tempering, these specimens had a tensile strength of 165 kg/mm², yield strength of 150 kg/mm², elongation of about 4% and reduction in area of about 10%. Higher degrees of deformation bring about an increase in plasticity and a drop in strength, which is attributed to imperfections in the test technique used. Tempering at 900°C after preliminary deformation leads to some drop in strength in the case of low degrees of deformation (reductions up to 35%). This is attributed to an increase in the proportion of residual β -phase. Elongation and reduction in area, after deforming to 90% reduction at 900°C with subsequent tempering, increase from zero values to 8 and 20% respectively. The grain size of thermomechanically treated specimens is much smaller than that of conventionally treated materials. There are 3 figures and 1 Soviet-bloc reference. X

Card 2/2

34844
S/129/62/000/003/005/009
E021/E335

18.5,00

AUTHOR: Shigarev, A.S., Engineer

TITLE: Study of the fine structure of surface work-hardened fatigue samples of low-tempered steels

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1962, 25 - 29

TEXT: Fatigue samples 12 mm in diameter, made of the high-strength steels 40XHBА (40KhNVA) and 45XHMΦA (45KhNMFA) were quenched and tempered at 200 °C. After this they were work-hardened with rollers or shot-blasted. The cold-work was controlled by the pressure on the rollers and, respectively, by the time of shot-blasting (diameter of the shot 0.8 mm, rate of blast 81 m/sec). The change in the fine crystalline structure occurring in the surface layer was studied by ionization X-ray apparatus. The dimensions of the "blocks" and the microstresses were determined by the integral method. Round samples of the corresponding steel, tempered at 680 °C for 8 hours, were used as standards. The dimensions of the blocks decreased with increase in pressure on the roller and with

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X

Study of the fine structure

S/129/62/000/005/005/009
E021/E335

increase in time of shot-blasting, reaching a minimum at 400 kg pressure and 10 - 15 minutes shot-blasting. The minimum size of the blocks of 40 KhNVA steel after rolling was

$D = 2.9 \times 10^{-6}$ cm and for 45KhNMFA steel was $D = 2.6 \times 10^{-6}$ cm.

The minimum size after shot-blasting was $D = 2.5 \times 10^{-6}$ cm. During plastic deformation of low-tempered steels carbon precipitated from the α -solid solution. The most intensive precipitation ended after 10 minutes shot-blasting or at a roll pressure of 380 kg. The fatigue strength can be increased by removing the thin "weak" layer, the thickness of which depended on the rolling regime. The depth of the cold-worked layer was 1.2 - 1.4 mm with a roller-pressure of 405 kg and 1.6 - 1.8 mm with a pressure of 630 kg. There are 5 figures.

Card 2/2

X

SHIGAREV, A.S., inzh.

Thermomechanical treatment of titanium alloys. Metalloved. i term.
obr. met. no.1:42-44 Ja '62. (MIRA 15:1)
(Titanium alloys--Heat treatment) (Deformations (Mechanics))

AID Nr. 984-17 6 June

Shigarev) A.S.

EFFECT OF THERMOMECHANICAL TREATMENT ON FINE STRUCTURE OF STEELS AND Ti ALLOYS (USSR)

Gulyayev, A. P., and A. S. Shigarev. Metallovedeniye i termicheskaya obrabotka metallov, no. 4, Apr 1963, 9-12. S/129/63/000/004/003/014

The Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin investigated the effect of low-temperature (LTTT, ausforming) and high-temperature (HTTT) thermomechanical treatments on the mechanical properties and fine structure of Armco iron, V12 [AISI W1] and 50XH4M (0.50% C, 1.5% Cr, 4% Ni, 0.31% Mo) steel, and OT4 (1.5% Mn, 2.6% Al) and OT4-1 (1.3% Mn, 1.4% Al) Ti alloys. In both types of TTT, specimens were deformed by a single hammer blow with reductions up to 90% in HTTT and up to 35% in LTTT and quenched in brine at -5°C. In the as-quenched condition, 5XH4M steel deformed at 750 or 900°C with reductions of 75 or 90%, respectively, had a tensile strength of 275 or 270 kg/mm², yield strength of 190 or 185 kg/mm², and reduction of area of 8 or 22% (compared with 237 kg/mm², 180 kg/mm², and 4% for conventionally hardened steel). Tempering at 100°C lowers the tensile strength by about 5 kg/mm² and raises yield strength and reduction of area somewhat. Analysis of

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AID Nr. 984-17 6 June

EFFECT OF THERMOMECHANICAL TREATMENT (Cont.)

S/129/63/000/004/003/014

x-ray diffraction patterns revealed that the width of the (110) line of martensite produced by thermomechanical treatment is considerably narrower than that of martensite obtained by conventional hardening. The difference becomes greater with higher reductions. The phenomenon is attributed to deformation-induced precipitation of carbon from austenite, which raises the temperature of martensitic transformation and reduces the amount of residual austenite. The latter effect, however, becomes apparent only at high reductions. Reductions up to 25-30% increase the amount of residual austenite. In Ti alloys HTTT (deformation at 1000°C) was found to lower the tensile strength by 5-10 kg/mm² (at a reduction of 80%) but to increase ductility greatly. In OT4 alloy the maximum effect (elongation, 15%; reduction of area, 40%; notch toughness, 10 mkg/cm²) was observed with reductions of 50-60%. In OT4-1 ductility increases steadily with increasing reduction; at 80% reduction, elongation was 17%, reduction of area 47%, and notch toughness 12 kg-m/cm². In both alloys the width of the (011) line of the α -phase was found to increase with increasing reduction, while the amount of the residual β -phase reached a maximum at 60% reduction. [DV]

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L 8936-65 EWT(m)/T/EWP(q)/EWP(b) ASD(m)-3 MJW/JD

ACCESSION NR: AP4044151

S/0126/64/018/002/0233/0238

AUTHOR: Gulyayev, A. P.; Shigarev, A. S.

TITLE: Recrystallization of austenite during high-temperature thermomechanical treatment

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 2, 1964, 233-238

TOPIC TAGS: thermomechanical treatment, high temperature thermomechanical treatment, low temperature thermomechanical treatment, steel ausforming, titanium alloy thermomechanical treatment, austenite recrystallization, ausformed austenite recrystallization.

ABSTRACT: The recrystallization of austenite during high- and low-temperature thermochemical treatments (HTTMT and LTMT) was investigated in order to determine the maximum permissible time between deformation and quenching. The wedge-shaped specimens of 50KhN4M (0.5% C, 1.5% Cr, 4% Ni, 0.30% Mo) steel were deformed with a single hammer blow at 900, 750, and 500C and water-quenched either im-

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L 8936-65

ACCESSION NR: AP4044151

mediately or after holding for a certain time at the deformation temperature. It was found that hardness of specimens quenched immediately after deformation increased continuously with increasing reduction and reached over 60 HRC at 30% reduction. Further increase of reduction had no effect on hardness of specimens deformed at 550 or 750C, but hardness of specimens deformed at 900C dropped beginning with a reduction of 60%, and at 97% reduction amounted to 60.5 HRC, the hardness of conventionally hardened steel. This means that at reductions over 60% the recrystallization immediately follows deformation. The width of (110) line in x-ray diffraction patterns decreased with reduction for all the deformation temperatures. This could be explained only by extrusion of the carbon atoms out of solid solution in the form of carbides, which was confirmed by electron microscopy. Tests with specimens quenched with some delay after deformation showed that in specimens deformed at 900C with 60% reduction recrystallization (manifested by the hardness drop) begins 5 sec after deformation and widening of (110) line, indicating the dissolution of extruded carbides 2 sec after deformation. The latter process is completed in 3 sec and the former in 5 sec; the hard-

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L 8936-65

ACCESSION NR: AP4044151

ness drops to 60.5 HRC. In specimens deformed at 750C with reductions of 90 or 60%, the recrystallization begins 30 and 50 min, respectively, after deformation. In the VT3-1 titanium alloy subjected to HTMT at 850C, the (011) line of α -phase becomes wider with increasing reduction but returns to its original width 10 sec after deformation. To obtain the maximum strengthening effect from HTMT, the deformation process and the time between deformation and quenching must be reduced to a minimum. Orig. art. has: 9 figures.

ASSOCIATION: TsNIICHERMET im. I. P. Bardina

SUBMITTED: 02Jul63

ATD PRESS: 3109

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 002

Card 3/3

L 59273-65 EWP(k)/EWP(z)/EWA(c)/EWT(m)/EWP(b)/T/EWA(d)/EWP(w)/EWP(t) IJP(c)
MJW/JD/HW

ACCESSION NR: AT5016C66

UR/2776/65/000/039/0170/0174

AUTHOR: Gulyayev, A. P.; Shigarev, A. S.

TITLE: Recrystallization of austenite during ausforming

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metalur-
gii. Sbornik trudov, no. 39, 1965. Spetsial'nyye stali i splavy (Special steels
and alloys), 170-174

TOPIC TAGS: alloy steel, martensitic transformation, heat treatment, hot working,
mechanical property, recrystallization, metallographic examination, metal ausforming

ABSTRACT: Work was done on 50KhN4M steel containing 0.5% C, 1.5% Cr, 4% Ni and
0.31% Mo. Wedge shaped samples were deformed at 900, 750, and 530°C. By using
such shapes various degrees of deformation could be accomplished on one sample.
Microstructures were studied in the processed samples, while the effects of increas-
ing deformation showed up in a decrease in grain size, and generalized grain elon-
gation. This resulted in a finer distribution of martensitic crystals upon quench-
ing from the austenite. Hardness was found to increase sharply (to 63 R_c) with

Card 1/2

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L 59273-65

ACCESSION NR: AT5016066

deformation during ausforming and quenching for all hot working temperatures. However, for 900°C the hardness dropped sharply after 75% deformation, while for the lower temperatures the hardness remained at its peak value, even up to 90% deformation. Some x-ray studies were also presented as a function of degree of deformation. Here the effect of carbon content on the (110) lines, and the effects of deformation on diffusion characteristics were also noted. Thus, further work was done on the effects of holding time during deformation at 900°C. Curves for hardness and (110) line width were simultaneously plotted as a function of holding time. During ausforming, not only is recrystallization occurring, but carbon is being forced out of the austenitic solid solution. In order to realize the maximum strengthening effect during ausforming, it is necessary to limit the holding time at higher temperatures. For 50KhN4M steel at 900°C, this time should be two seconds or less. Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 003

Card ^{KS} 2/2

PROKOF'YEV, Aleksandr Ivanovich; SHIGAREV, G.A., red.; KUZ'MINYKH,
A.A., red. izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Organization of work in labor protection at sawmilling and
woodworking enterprises] Organizatsiia raboty po okhrane
truda na lesopil'no-derevoobrabatyvaiushchem predpriatii;
v pomoshch' inzheneru po tekhnike bezopasnosti. Moskva, Gos-
lesbumizdat, 1963. 81 p. (MIRA 17:1)

SHIGAREV, T.D. (Chelyabinsk, ul.Kommuny, d.35)

Treatment of thrombosis of the mesenteric vessels with anti-
coagulants. Nov. khir. arkh. no.9:72-73 S '61. (MIRA 14:10)
(ANTICOAGULANTS (MEDICINE)) (THROMBOSIS)

SHIGAREV, T.D.; POSPOLITAK, B.M.

(Chelyabinsk)

Pathogenesis, clinical picture and treatment of thrombosis
of the mesenteric vessels. Klin. med. 41 no.2:142-146 F'63
(MIRA 17:3)

SHIGAYEV M
TAYCHINOV, S.H.; SHIGAYEV, M.S.

Work of the Bashkir Section of the All-Union Society of Soil
Scientists. Pochvovedenie no.2:88-89 P '58. (MIRA 11:3)
(Bashkiria--Soil research)

SHIGAYEV, N. N.: Master Tech Sci (diss) -- "The effect of pressure on the process of burning of ground-up fuels containing volatile substances". Moscow, 1958.
19 pp (Min Agric USSR, Moscow Inst of the Mechanization and Electrification of Agric), 140 copies (KL, No 9, 1959, 116)

YESIN, V.V.; KANTOROVICH, B.V.; SHIGAYEV, N.N.

Effect of volatile substances on the combustion rate of pulverized fuels at various pressures [with summary in English]. Inzh.-fiz. zhur. 1 no.8:52-58 Ag '58. (MIRA 11:8)

1. Institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva Moskva.

(Combustion)

YESIN, V.V., kand.tekhn.nauk, SHIGAYEV, N.N., inzh.

Effect of pressure on the rate of combustion of solid fuels. ..

Trudy MIMESKH 8:16-29 '59.

(MIRA 13:9)

(Fuel)

YESIN, V.V., kand.tekhn.nauk; SHIGAYEV, N.M. inzh.

Theoretical studies of the rate of combustion of pulverized fuels
in a bomb-type installation. Trudy MIMESKH 8:30-45 '59.

(MIRA 13:9)

(Fuel)

SHIGAYEV, V.

Dispatcher Nadezhda Rusakova. Avt.transp. 38 no.3:11
Mr '60. (MIRA 13:6)

1. Sekretar' partiynogo byuro Korsunskogo avtokhozyaystva
Ul'yanskovy oblasti.
(Women--Employment)

SMIGAYEVA, A. L.

"Thiodiphenylamine and its Larvicidal Properties (Effect on Larva of Malaria Mosquitoes)", Med. Paraz. i Paraz. Bolez., Vol. 17, No. 1, pp 89, 1948.

S/054/62/000/004/003/017
B101/B186

AUTHORS: Trapeznikova, O. N., Shigayeva, L. B.

TITLE: Crystalline structures in thick polymethyl methacrylate films

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii,
no. 4, 1962, 56-62

TEXT: Microscopic studies were carried out on polymethyl methacrylate films obtained by pouring a concentrated solution of the polymer onto a mercury surface. Six-pronged stars were formed, which showed different forms depending on the test conditions but which always had hexagonal symmetry. The crystals formed only from the syndiotactic fraction of polymethyl methacrylate. The rate and the type of polymerization (thermal or with benzoyl peroxide) and the deformation of the film had no effect on the amount of crystals formed. Since no crystallization occurred when solutions of polymethyl methacrylate were poured onto glass, an orienting effect is assumed for Hg. The easy crystallization suggests a high degree of order of the polymer molecules in solutions. There are 12 figures.

SUBMITTED: May 5, 1962
Card 1/1

TRAPEZNIKOVA, O.N.; SHIGAYEVA, L.B.

Crystalline formations in thick films of polymethyl methacrylate.
Vest. LGU 17 no. 22: 56-62 '62. (MIRA 15:12)
(Methacrylic acid) (Crystals)

SHIGAYEVA, M.Kh.

Medical properties of the autolysate of brewer's yeast in treating
experimental staphylococcic infections. Trudy Inst.mikrobiol. 1
virus.AN Kazakh.SSR 1:55-60 '56. (MIRA 10:6)
(STAPHYLOCOCCUS) (YEAST) (AUTOLYSIS)

SHIGAYEVA, M.Kh., Cand Med Sci -- (disc) "Medicinal properties
of the autolysate of beer yeasts in experimental staphylococcus
infection." Alma-Ata, 1958, 10 pp (~~Joint Scientific~~ ^{Joint Scientific} Council of
Institutes of Physiology, ~~Regional~~ ^{Regional} Pathology, ~~Clinical and Experimental~~ ^{Clinical and Experimental}
Surgery of Acad Sci KaSSR) 200 copies (KL, 27-48, 119)

VEPLUGINA, L.A.; SHIGAYEVA, M.Kh.

Isolation and certain properties of the antibiotic substance
produced by Actinomyces antocyanus (strain 1016). Trudy Inst. mikrobiol.
i virus. AN Kazakh. SSR 3:46-54 '59. (MIRA 13:2)
(ANTIBIOTICS)

FROLOVA, L.F.; SHIGAYEVA, M.Kh.; ILYALETDINOV, A.N.; BEKETAYEVA, L.I.

Antibacterial properties of the silt of Lake Balpash-Sor. Trudy Inst.
kraev. pat. AN Kazakh. SSR 7:73-81 '59. (MIRA 13:3)
(BALPASH-SOR, LAKE (KOKCHETAV PROVINCE)--SILT)

SHAMIS, D.L., otv. red.; VETIUGINA, L.A., red.; ILYALETDIROV,
A.N., red.; KARPOV, M.S., red.; SHIGAYEVA, M.Kh., red.;
ALEKSANDRIYSKIY, V.V., red.

[Transactions of the Conference on the Microbiology of
Feed Trudy Soveshchaniia po mikrobiologii kormov.
Alma-Ata, Izd-vo AN Kaz.SSR, 1961. 126 p.
(MIRA 17:11)

1. Soveshchaniye po mikrobiologii kormov, Alma-Ata, 1959.
2. Institut mikrobiologii i virusologii AN KazSSR (for
Karpov, Shamis).

ILYALETDINOV, A.N.; SHIGAYEVA, M.Kh.; FROLOVA, L.F.; YANOVSKAYA, D.L.

Regeneration of medicinal mud from Lake Balpash-Sor. Trudy
Inst. mikrobiol. i virus. AN Kazakh. SSR 5:81-89 '61. (MIRA 15:4)
(Balpash-Sor, Lake—Baths, Moor and mud)

SVECHNIKOVA, E.L.; SHIGAYEVA, M.Kh.

Variability of some micro-organisms under the influence of the mud from Lake Balpash-Sor. Report No.1: Variability in the case of immediate introduction of micro-organisms in mud substratum. Trudy Inst. mikrobiol. i virus. AN Kazakh. SSR 5: 90-97 '61. (MIRA 15:4)
(Balpash-Sor, Lake--Baths, Moor and mud) (Micro-organisms)