L 29897-66 EWT(d)/EWT(m)/T-2/EWP(f) WE
ACC NR: AR6008706 (A, N) SOURCE CODE: UR/0273/65/000/010/0005/0005

30
AUTHOR: Zamoruyev, V. M.; Fokina, A. Z. 23 B

TITLE: Thermostability of marine internal combustion engine piston rings and a way for its improvement

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya, Abs. 10.39.38

REF SOURCE: Tr. Leningr. in-ta vodn. transp., vyp. 73, 1964, 5-12

TOPIC TAGS: piston engine, engine component, engine piston

ABSTRACT: The most important property of internal combustion engine piston rings is their thermostability, i. e., the ability to preserve continuously its initial elasticity during engine operation at higher temperature. Despite the great importance of piston ring thermostability, its study and the development of means to improve this property are insufficient. The thermostability of marine combustion-engine piston rings has hardly ever been studied. The task of this work is to fill this gap. [LAS]

SUB CODE: 10/ SUBM DATE: none

Card 1/1 CC UDC: 10.39.38

L 40256-66 EWT(m)/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AP6019900 (N) SOURCE CODE: UR/0145/65/000/012/0112/0116

AUTHOR: Zamoruyev, V. M. (Doctor of technical sciences, Professor); Zobachev, Yu. Ye.; Kartyshov, A. V. (Candidate of technical sciences); Vysotskiy, A. A. (Engineer)

ORG: Leningrad Institute of Water Transport (Leningradskiy Institut vodnogo transporta)

52
50
13

TITLE: The effect of alloying elements on cavitiation resistance of chrome-manganese steel

14

SOURCE: IVUZ. Mashinostroyeniye, no. 12, 1965, 112-116

TOPIC TAGS: alloy, alloy steel, alloy composition, chromium, manganese, cavitation, marine equipment, sea water corrosion

ABSTRACT: The cavitation resistance of various grades of steel is studied as a function of concentration of chromium, manganese and other elements and an optimum steel composition is selected for marine propeller screws. Experimental smelting was done in a high frequency induction furnace. All specimens were heated to 1100-1150°C, depending on carbon content. The specimens were heated for 20 minutes and then cooled in quiet air. Cavitation resistance was studied on a magnetostrictive vibrator at a frequency of 8 kc. The working surfaces of the specimens were polished. All experimental work was done under synthetic marine conditions for a period of three hours.

UDC: 620.193.16

Card 1/2

ACC NR: AP6019900

The samples were weighed every hour. The results show that cavitation resistance of chrome-manganese steel is improved when chromium content is increased to 13.5%. When chrome content exceeds 14.0%, cavitation resistance is reduced. Optimum chrome content is 12.0-14.0%. Chrome-manganese steel containing 7.0-9.0% manganese has maximum cavitation resistance, which is reduced by any further addition of manganese. Increasing the carbon content of chrome-manganese steel to 0.38-0.40% also increases cavitation resistance, although ductility and workability are adversely affected. Silicon is necessary for holding ductility at the required level. Silicon content should not exceed 1.0%. The addition of 0.05-0.1% titanium improves the strength properties of the steel by reducing grain size. Resistance to cavitation is also improved. The following composition is optimum for steel used in marine propeller shafts working under cavitation-producing conditions: C--0.20-0.28%, Si--0.5-1.0%, Mn--7.0-9.0%, Cr--12.0-14.0%, Ti--0.02-0.05%. The results also show that chrome-manganese steel with a chromium content of 12% or more is corrosion-resistant in sea water. Sulfur was added to improve machining characteristics. 0.1% sulfur does not reduce the resistance to cavitation or the mechanical properties of chrome-manganese steel. Orig. art. has: 3 figures, 1 table.

SUB CODE: 11/ SUBM DATE: 29May64

Card 2/2 MLP

ACC NR:AR6019865 (N) SOURCE CODE: UR/0398/66/000/001/V013/V013

AUTHOR: Zamoruyev, V. M.

TITLE: Marine internal combustion engine piston ring operating temperature

SOURCE: Ref. zh. Vodnyy transport, Abs. 1V84

REF SOURCE: Tr. Leningr. in-ta vodn. transp., vyp. 82, 1965, 66-70

TOPIC TAGS: internal combustion engine, marine engine, engine component, engine piston, fusible alloy, temperature distribution, temperature test

ABSTRACT: The methodology for measuring the temperatures of marine internal combustion engine [DVS] piston rings using fusible indicators is described. A table listing the ranges of the metals and alloys used in LIVT-TM indicators to determine the temperatures of machine and mechanism parts when operating is presented. An experiment conducted with engines installed in operating motorships established (1) that piston ring temperature around the circumference is not identical, but is highest in the vicinity of the gap, and lowest in the section opposite the gap; (2) that the difference between maximum and minimum temperatures can be as high as 100°; (3) that the temperature in the vicinity of the gap which differs with ring height, drops off more slowly than does the change in the temperature of the circumferential ring mass; and (4) that the piston rings in the 8DV136 engine operate at temperatures

Card 1/2 UDC: 621.431.74.001

ACC NR: AR6019865

of 270-300° for I and II, and 180-200° for IV rings. 3 figures, 4 tables. Bibliography of 3 titles. [Translation of abstract]

SUB CODE: 21,13

Card 2/2

ZAMORUYEV, V.V.

Stone glaciers in the Khamar-Daban Range. Izv. Vses. geog. ob-va 97 no.1:80-81 Ja-F '65. (MIRA 18:3)

ZAMORUYEV, V.V.

Rock streams in the Katun' Range (central Altai). Trudy VSEGEI 90:126-133 '63. (MIRA 17:5)

ZAMORUYEV, V.V.; SEY, I.I.

Ancient glaciation of the Upper Zeya Depression and the Tukuringa-Dzhagda Ridge. Izv. AN SSSR. Ser. geog. no.6:76-80 N-D '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut (VSEGEI).

ZAMORUYEV, Vladimir Mikhaylovich; ZINGER, S.L., red. izd-va; ATTOPOVICH, M.K., tekhn. red.

[Tungsten in steel] Vol'fram v stali. Moskva, Metallurgizdat, 1962. 197 p. (MIRA 15:8)
(Tungsten steel)

ZAMORUYEV, V.M.

115

PHASE I BOOK EXPLOITATION SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th, Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii (Physicochemical Bases of Steel Making; Transactions of the Fifth Conference on the Physicochemical Bases of Steelmaking) Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted. 3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg. Tech. Ed.: V. V. Mikhaylova.

Card 1/16

Physicochemical Bases of (Cont.) SOV/5411

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

SOV/5411

Physicochemical Bases of (Cont.)

Arc Furnace Induced by Blowing Oxygen Into the Metal 149

Shul'te, Yu. A., and M. I. Kurbatov. The Effect of Manufacturing Parameters on the Properties of High-Manganese Steel 159

Iodkovskiy, S. A., and N. N. Sashchikhin. New Method of Making Austenitic Steels With a Given Quantity of Ferrite 167

Suchil'nikov, S. I. Extracting Valuable [Ferroalloy] Elements During The Process of Their Production 178

Berezhiani, V. M., and V. B. Baratashvili. Investigating the Nitrous Manganese Production Processes 184

Zamoruyev, V. M. On the Distribution of Titanium Between the Metal and Slag 189

Card 8/16

ZAMORUYEVA, I.N.

137-58-3-5464

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 139 (USSR)

AUTHORS: Boyarshinov, M. I., Zamoruyeva, I. N.

TITLE: Various Factors Affecting Bonding of Copper With Steel in the Solid State (Vliyaniye razlichnykh faktorov na stsepleniye medi so stal'yu v tverdom sostoyanii)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t, 1957, Nr 11, pp 161-176

ABSTRACT: Investigations were performed in order to determine the effect of temperature, pressure, and surface condition on the cohesive force (CF) between Cu and mild steel resulting from pressing together of these metals in their solid state. The CF was studied by means of subjecting specimens (S) to tensile stresses, while its boundaries were studied by methods of metallographic analysis. The experimental S consisted of two steel cylinders 28-30 mm long and 14 mm in diameter with a 1-2 mm thick circular Cu-plate inserted between them. The S was placed into a special apparatus, where it was subjected to compression at different temperatures. Prior to the experiment the surface of the S was degreased. In order to facilitate cohesive bonding,

Card 1/2

Various Factors Affecting Bonding of Copper with Steel in the Solid State

the surfaces of the steel specimens were copper-plated. It is found that copper-plating the surface of the S's prior to their being subjected to compression at a temperature of 950° results in improved cohesion under small pressures (below 4.5 kg/mm^2). Reducing the thickness of the Cu insert increases the CF between the metals. At pressures in excess of 2.9 kg/mm^2, 850° is the minimum temperature required for bonding of copper-plated S's. A decrease in temperature sharply reduces the CF.

G. A.

MATSUK, Yu.P., inzh.; NESHCHADIM, A.G., inzh.; ZAMORUYEVA, T.A., inzh.

Characteristics of the movement of the solvent in the screw extractor. Masl.-zhir.prom. 28 no.9:6-8 S '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for Matsuk). 2. Vsesoyuznyy zaochnyy institut pishchevoy promyshlennosti (for Neshchadim). 3. Leningradskiy khimiko-farmatsevticheskiy institut (for Zamoruyeva).
(Extraction apparatus) (Oils and fats)

ZAMORUYEVA, T.A.

Hydrodynamics of the bed of some plant materials. Izv.vys. ucheb.zav.;khim. i khim. tekh. 7 no. 1:148-155 '64.
(MIRA 17:5)

1. Leningradskiy khimiko-farmatsevticheskiy institut, kafedra obshchey khimicheskoy tekhnologii i neorganicheskoy khimii.

ZAMORUYEVA, T.A.; SLAVYANOV, Yu.N.

Determination of the free volume (porosity) in a layer of plant materials. Izv.vys.uch.zav.; khim.i khim.tekh. 5 no.4:666-668 '62. (MIRA 15:12)

1. Leningradskiy khimiko-farmatsevticheskiy institut, kafedra protsessov i apparatov i kafedra obshchey khimicheskoy tekhnologii.
(Porous materials)
(Hydrodynamics)
(Chemical engineering--Equipment and supplies)

L 42927-66 EWT(m)/EWP(j)/T/EWP(k) RM

ACC NR: AP6017082 (A) SOURCE CODE: UR/0317/66/000/001/0070/0071

AUTHOR: Guk, V. (Engineer; Lieutenant colonel); Antropov, A. (Engineer); Zamoruyeva, V. (Engineer); Pankova, K. (Engineer)

ORG: None

43
B

TITLE: Sealing of insulated cables

SOURCE: Tekhnika i vooruzheniye, no. 1, 1966, 70-71

TOPIC TAGS: electric cable, hermetic seal, insulating material

ABSTRACT: A method of sealing insulated cable ends against the entrance of moisture is discussed. The method is applied to cable kept in warehouses or stored under field conditions. The cable ends are hermetically closed by the insulation enclosing the cable. For this purpose, the bared conductor ends are cut off while the insulation is heated, softened, stretched and pressed together by pliers. The application of this method to various types of cable is described including single, twin and duplex cables with polyvinyl-chloride insulation; twisted-pair stranded conductors with polyethylene insulation; four-wire and multi-pair field cables with wire armor and rubber sheath jacket; multi-conductor field cables and cords with polyvinyl-chloride plastic insulation. The effectiveness of this method is proven by an 18-day underwater test.

SUB CODE: 09/ SUBM DATE: None

Card 1/1 MLP

RETEZAR, Arpad; BUNYITAI, Janos; SARKADI, Janos; KERPELY, Antal; ZAMORY, Eva

Investigations of ammonium humate containing organic compounds in culture vessels. Veszprem vegyip egy kozl 3 no.1/4:59-78 '59

1. Veszpremi Vegyipari Egyetem Asvanyolaj- es Szentechnologia Tanszek (for Retezar, Bunyitai and Kerpely). 2. Magyar Tudomanyos Akademia Talajtani es Agrokemiai Kutato Intezete (for Sarkadi). 3. Orszagos Mezogazdasagi Minosegvizsgalo Intezet (for Zamory).

ZAMORY, P. K.

"Old Ice Age Relief in the Ukraine"

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

ZAMORYSHEV, A. V.

"The Effect of Feeding and Maintenance Corditions on the Growth and Development of Lambs of the Romanov Breed of Sheep and Their Hybrids." Cand Agr Sci, [no inst given], Moscow, 1954, (RZhBiol, No 4, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

SLIVKO, V.V., otv. red.; GLAZACHEV, V.V., red.; YEMEL'YANOV, A.S., red.; ZAMORYSHEV, A.V., red.; MORDVINTSEV, P.V., red.; NIKITIN, Ye.M., red.; SHUBIN, M.Ye., red.; SOKOLOVA, S.I., tekhn. red.

[Scientific Conference on the Results of Research Work for the period from 1958 to 1959] Nauchnaia konferentsiia po itogam nauchno-issledovatel'skoi raboty za 1958-1959 gg.; tezisy dokladov. Vologda, Vologodskoe knizhnoe izd-vo, 1960. 174 p. (MIRA 16:10)

1. Molochnoye (Vologodskaya oblast') Vologodskiy molochnyy institut. 2. Kafedra ekonomiki i organizatsii proizvodstva v sotsialisticheskikh sel'skokhozyaystvennykh predpriyatiyakh i molochnoy promyshlennosti Vologodskogo molochnogo instituta (for Mordvintsev). 3. Kafedra kormleniya selskokhozyaystvennykh zhivotnykh Vologodskogo molochnogo instituta (for Yemel'yanov). 4. Kafedra chastnoy zootekhniki Vologodskogo molochnogo instituta (for Zamoryshev). 5. Kafedra tekhnologii moloka i molochnykh produktov Vologodskogo molochnogo instituta (for Glazachev, Shubin).
(Vologda Province--Farm produce--Research)

ZAMORZAYEV, A.M.; PALISTRANT, A.F.

Two-dimensional Shubnikov groups. Kristallografiia 5 no.4:517-524 Jl-Ag '60. (MIRA 13:9)

1. Kishinevskiy gosudarstvennyy universitet.
(Lattice theory)

L 12809-63 EWT(1)/BDS AFFTC/ASD/ESD-3 IJP(C)
ACCESSION NR: AP3000761 S/0070/63/008/003/0307/0312

AUTHOR: Zamorzayev, A. M.

55

TITLE: Symmetry groups and groups of a different kind of antisymmetry

SOURCE: Kristallografiya, v. 8, no. 3, 1963, 307-312

TOPIC TAGS: symmetry group, antisymmetry, color space group

ABSTRACT: The author directs his attention chiefly to the task of classifying symmetry groups and groups of a different kind of antisymmetry (multiform polarity). He considers the matter of interpreting these groups, the problem of counting up the full number of groups when there is a large number of signs, and he points ways of using the results obtained to form generalizations concerning the known symmetry groups in order to increase the number of measurements. His rule for counting up the groups is shown in Formula (1), and his results of applying it are indicated by Formulas (2) and (3). Orig. art. has: 10 formulas.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet (Kishinev State University)

SUBMITTED: 10Aug62 DATE ACQ: 21Jun63 ENCL: 02
SUB CODE: 00 NO REF SOV: 014 OTHER: 000

Card 1/3

ZAMORZAYEV, A.M.

The 1651 Shubnikov group. Kristallografiia 7 no.6:813-821 N-D '62.
(MIRA 16:4)

1. Kishinevskiy gosudarstvennyy universitet.
(Crystallography)

ZAMORZAYEV, A.M.

Groups of symmetry and various kinds of antisymmetry. Kristallografiia 8 no.3:307-312 My-Je '63. (MIRA 16:11)

1. Kishinevskiy gosudarstvennyy universitet.

GALYARSKIY, E.I.; ZAMORZAYEV, A.M.

Groups of similarity symmetry and antisymmetry. Kristalografiia 8 no.5:691-698 S-O '63. (MIRA 16:10)

1. Kishinevskiy gosudarstvennyy universitet.

GALYARSKIY, E.I.; ZAMORZAYEV, A.M.

Complete derivation of crystallographic groups of symmetry and various kinds of antisymmetrical rod groups. Kristallografiia 10 no.2:147-154 Mr-Ap '65. (MIRA 18:7)

1. Kishinevskiy gosudarstvennyy universitet.

ZAMORZAYEV, A.M.; SOKOLOV, Ye.I.

Symmetry and different types of asymmetry of finite structures.
Kristallografiia 2 no.1:9-14 '57. (MLRA 10:7)

1. Kishinevskiy gosudarstvennyy universitet.
(Crystallography)

ZAMORZAYEV, A.M.; PALISTRANT, A.F.

Mosaics for 167 two-dimensional Shubnikov groups (lower of three kinds). Kristallografiia 6 no.2:163-176 Mr-Ap '61. (MIRA 14:9)

1. Kishinevskiy gosudarstvennyy universitet.
(Crystallography, Mathematical)

GALYARSKIY, E.I.; ZAMORZAYEV, A.M.

Catalog of point groups of symmetry and various types of antisymmetry. Kristallografiia 8 no.1: 94-101 Ja-F '63
(MIRA 17:7)

1. Kishinevskiy gosudarstvennyy universitet.

ZAMORZAYEV, A.M.; PALISTRANT, A.F.

Number of generalized Shubnikov space groups. Kristallografiia 9 no.6:778-782 N-D '64. (MIRA 18:2)

1. Kishinevskiy gosudarstvennyy universitet.

PALISTRANT, A.F.; ZAMORZAYEV, A.M.

Groups of symmetry and antisymmetry of layers. Kristallografiia 8 no.2:166-173 Mr-Ap '63. (MIRA 17:8)

1. Kishinevskiy gosudarstvennyy universitet.

ZAMORZAYEV, A.M.

Nonnormal regular partitions of Euclidean space. Dokl. AN SSSR 161 no.1:30-32 Mr '65. (MIRA 18:3)

1. Kishinevskiy gosudarstvennyy universitet. Submitted October 5, 1964.

ZAMORZAYEV, A.M.

Generalization of Fedorov's groups. Kristallografiia 2 no.1:15-20 '57. (MLRA 10:7)

1. Kishinevskiy gosudarstvennyy universitet.
(Crystallography)

PALISTRANT, A.F.; ZAMORZAYEV, A.M.

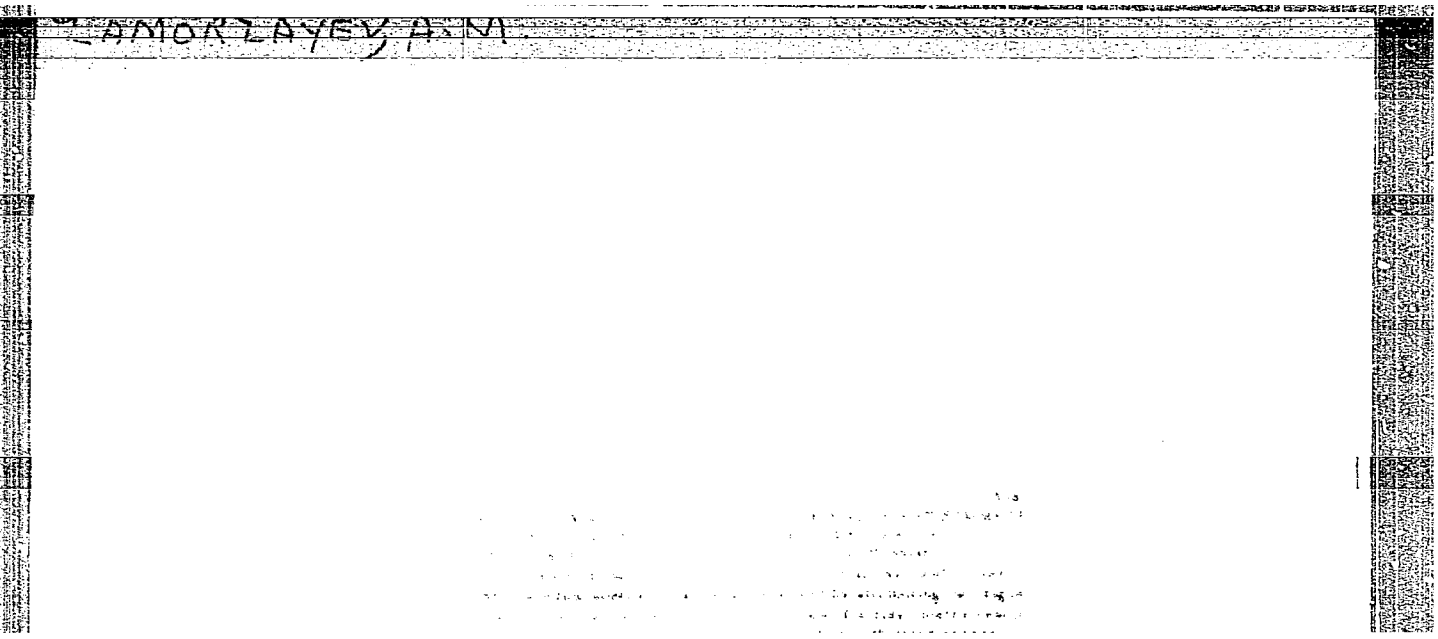
Symmetry groups and various kinds of antisymmetry of border ornaments. Kristallografiia 9 no.2:155-161 Mr-Ap'64. (MIRA 17:5)

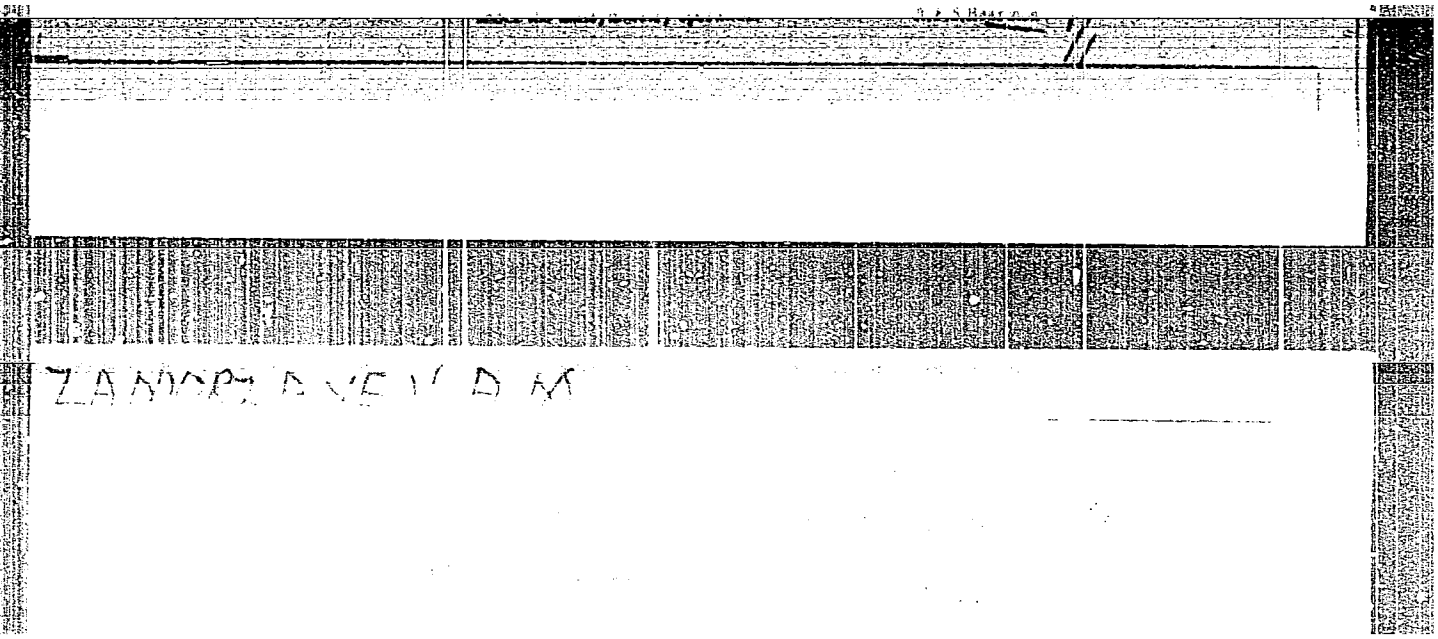
1. Kishinevskiy gosudarstvennyy universitet.

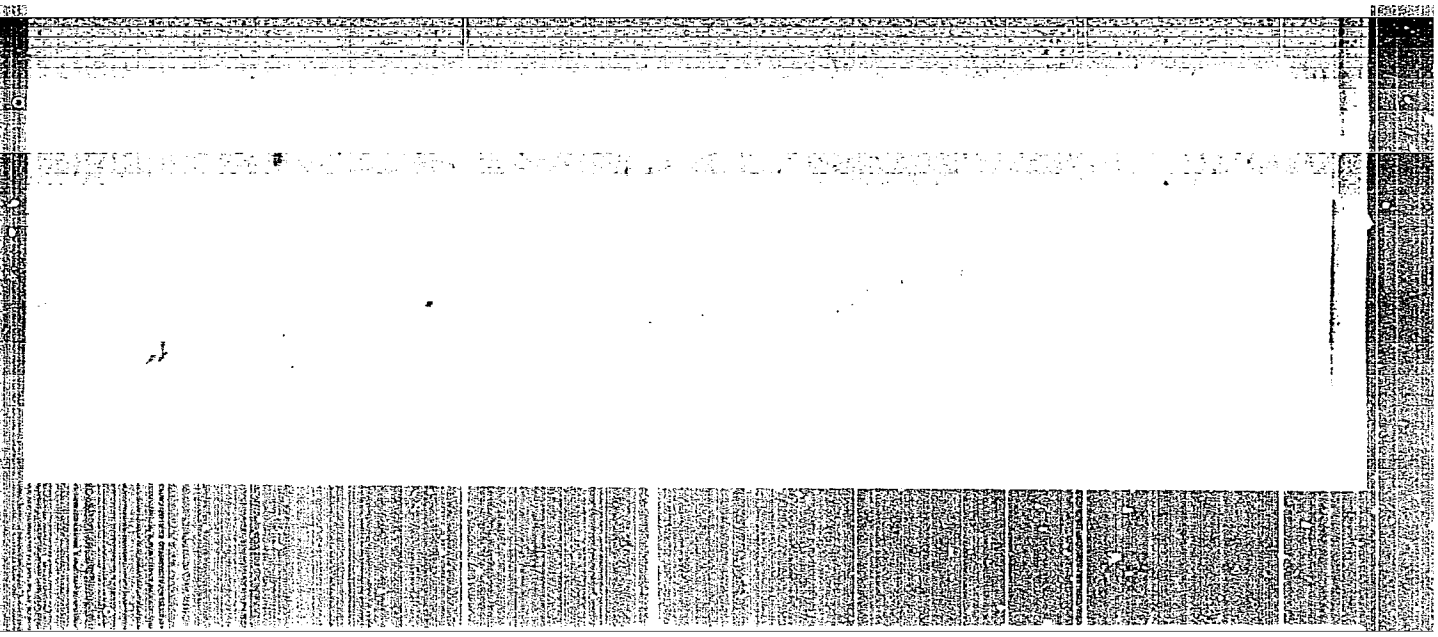
ZAMORZAYEV, A.M.

Zamorzayev, A.M. -- "A Generalization of F dorov Groups." Cand Phys-Math Sci, Leningrad State U, Leningrad 1953. (Referativnyy Zhurnal--Matematika, Jan 54)

SO: SUM 168, 22 July 1954







APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001963720014-8"

of only the j-th and k-th signs .... or to the change of all l signs. In all there are $2^l - 1$ different kinds of antisymmetry. Symmetry transformations (homologous) and antisymmetry transformations of different kinds (anti-homologous) are called generalised Shubnikov transformations if obvious conditions of uniformity and discreteness apply. $l = 0$ gives the space groups and $l = 1$ the Shubnikov groups. The case $l = 2$ has been fully explored at Kishinev State University by Sh. Tolpolar'. 5 ways of deriving generalised Shubnikov groups, by substituting or adding anti-identity elements are listed. There are, besides the 230 Fedorov groups, 3 x 230 senior Shubnikov groups of one kind, 230 senior groups of three kinds, 3 x 1191 junior Shubnikov groups of 1 kind, 3 x 1191 senior in one kind and junior in the remaining kinds. There are also groups designated as junior in three kinds. The 32 point groups and the 14 lattices have been treated similarly. The 32 groups give 58 junior of each kind and

116 junior of three kinds. The 14 lattice groups give 22 junior groups of three kinds and 37 groups of all three kinds of translations and anti-translations. In all, 9415 junior groups of three kinds (1191 junior groups of one sort) were found. A sketch of the situation for n greater than 2 is outlined. For n greater than 6 there are no non-trivial generalizations.
There are 8 Soviet references.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet
(Kishinev State University)

SUBMITTED: April 10, 1958

ZAMOSHCHIK, A., inzh.

Experience in the mechanization and automation of a plant producing reinforced concrete elements. Na stroi.Ros. 3 no.4:20-21 Ap '62. (MIRA 15:9)
(Reinforced concrete) (Automatic control)

S/129/62/000/012/006/013
E073/E351

AUTHORS: Ryabchenkov, A.V., Doctor of Chemical Sciences, Professor, Velemitsyna, V.I. and Zamoshnikov, L.D., Engineers

TITLE: Application of immersion nickel-plating on pearlitic steels for the manufacture of power-generation turbo-machinery components

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1962, 30 - 33

TEXT: The production and properties were studied of a nickel-phosphorus coating on pearlitic steels by immersion in a solution of 20-22 g/l. nickel chloride, 21-25 g/l. sodium hypophosphite and 8-10 g/l. sodium acetate, pH 4.8-5.3, heated to 88-98 °C. The coated components were held at 400 °C for 1 hour to improve the bond and mechanical properties. A coating consisting of a nickel alloy with 5-15% P was produced by this method. According to data obtained by the authors and published data, the coatings had the following properties: 1 - a high hardness, 850-900 kg/mm^2; 2 - a strong and reliable bond with

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Application of ....

the base metal; 3 - good resistance to high-temperature corrosion in air and superheated steam. In experiments at 650 °C for 1 000 hours, nickel-coated specimens showed a resistance-to-corrosion 36 times as high in steam and 15 times as high in air as that of uncoated steel specimens; 40 high stability at sharp temperature gradients; 30 thermal-shock cycles (400 °C - air; 400 °C tapwater; 600-620 °C, 600 °C - air) did not produce cracks in the coatings or changes in the properties and structure; 30 cycles of tapwater produced a very fine network of cracks; 5) high resistance-to-seizure - a specific pressure of 600 - 650 kg/cm^2 - of components with a chemically produced 40-μ thick nickel coating caused a specific seizure of 4-8 μ/m (in steam at 580 °C), as compared with 8-12 μ/m for chromated specimens at 444 kg/cm^2; 6) high wear resistance of nickel-coated/blank steel and nickel-coated bronze couples. The fatigue strength in air at room temperature was somewhat lowered but no adverse effect of the nickel coating was observed under alternating load at 600 °C. Use of chemical nickel-plating is recommended for pearlitic steel steam-turbine fittings for operation at

Application of ....

140 - 240 atm. and 565 - 580 °C. This method is in use at the Venyukovskiy armaturnyy zavod (Venyukovo Fitting Works). and allows a five-fold increase in service life of fittings at this works. There are 4 figures.

ASSOCIATION: TsNIITMASh

Card 3/3

KUZINA, A. F.; ZAMOSHNIKOVA, N. N.; et al

"Chemical and Electrochemical Properties of Technetium in Water Solutions."

report submitted for 2nd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

38613

S/020/62/144/005/010/017
B106/B138

21.4200

AUTHORS: Spitsyn, Vikt. I., Academician, Kuzina, A. F., Zamoshnikova, N. N., and Tagil', T. S.

TITLE: Extraction of technetium 99 from aqueous solutions with quinoline, tributyl phosphate, and some other organic solvents

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 5, 1962, 1066-1068

TEXT: The authors were the first to study the extraction of technetium at room temperature with the following organic solvents: quinoline, tributyl phosphate (TBP), acetone, acetylacetone, and thenoyl trifluoro acetone $C_8H_5O_2F_3S$ (0.2 M solution in benzene). They also studied the extraction of the complex compound of technetium and triphenyl guanidine chloride with n-butanol and chloroform. For comparison, the complexes of technetium with tetraphenyl arsonium chloride, and tetraphenyl phosphonium chloride with chloroform were also extracted. The long-lived isotope Tc^{99} in the form of pure 6-8 mg/l solutions of sodium pertechnate used for the extraction. In addition, the sodium pertechnate solution was oxidized with H_2O_2 in an

Card 1/3

S/020/62/144/005/010/017
B106/B138

alkaline medium before each extraction. The extraction of technetium was observed radiometrically. It was found that pure Tc^{99} can easily be extracted from neutron-bombarded molybdenum by quinoline and acetone. The results for technetium extraction with acetone will be published separately. With quinoline, the highest distribution coefficient (K = 83) was reached at pH = 8. When technetium was reextracted, neither distillation of quinoline in vacuo, extraction with 0.2 M aqueous solutions of hydrazine sulfate or sodium thiosulfate, nor precipitation of technetium as $CsTcO_4$ or $RbTcO_4$ showed satisfactory results. Reextraction is possible if chloroform is added (in an amount equal to that of quinoline) to the system quinoline - water, 99.7% technetium passing into the aqueous phase. The extraction of technetium with TBP was studied in the acidity range 1 N NaOH to >6 N HNO_3. Highest K value, 14.7, was obtained with 0.5 N HNO_3 as medium, with this acidity, the composition of the extractable complex corresponds to the formula $HTcO_4 \cdot 3TBP$. Reextraction from the organic layer, was studied with water, HCl, HNO_3, and NaOH solutions of different concentrations, 4 N solutions of citric and oxalic acids, and

Extraction of technetium 99 ...

also $(NH_4)_2CO_3$ and NaOH. Best results were with 10-12 N HNO_3 (90.8-99% reextraction) and 4 N NaOH (50% reextraction). With acetyl acetone and thenoyl trifluoro acetone the K was 1.3 (HNO_3, pH = 4), and < 0.001 (HNO_3, pH = 3), respectively. With triphenyl guanidinium chloride, however, it was much lower than with the two comparison complexing agents. V. I. Kuznetsov and N. N. Basargin supplied triphenyl guanidine chloride synthesized by their own method (Metody analiza metallov i splavov (Mater. nauchno-tekhnich. soveshch.) (Methods of analyzing metals and alloys (Material from a scientific-technical conference)), part II, M., 1961, p.3). There are 1 figure and 2 tables. The three English-language references are: S. Tribalat, J. Beydon, Anal. Chim. Acta, 6, 96 (1952); 8, 22 (1953); J. E. Boyd, Q. V. Larson, J. Phys. Chem., 64, 988 (1960).

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR)

SUBMITTED: January 30, 1962

Card 3/3

S/020/62/145/001/014/018
B145/B101

AUTHORS: Kuzina, A. F., Tagil', T. S., Zamoshnikova, N. N., and Spitsyn, Vikt. I., Academician

TITLE: Extraction of technetium 99 by acetone

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 1, 1962, 106 - 108

TEXT: It was found that acetone in an aqueous medium is salted out by Na_2MoO_4 and NaOH (the best conditions being: 200 g Na_2MoO_4/l, with 5N NaOH; increase in the acetone volume at a phase ratio of 1:1 not more than 5 %). Tc^{99} can be extracted selectively from alkaline aqueous solutions with acetone in the presence of other radioelements. The optimum NaOH concentration (1 ml acetone, 1 ml alkaline phase, 10.2 mg/l Tc as pertechnate, time of extraction : 5 minutes, 25 - 27°C) was 4 - 5 moles/l with a distribution factor K = 10 (92 % extracted). In the presence of 75 g/l Na_2MoO_4, K was 8 with 4 N NaOH (90 %) and 10 with 5 N NaOH (91 %). When the phase ratio was changed by one order of magnitude, the degree of extraction remained practically constant. Reaction solutions obtained by

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Extraction of technetium 99 ...

neutron bombardment of Na_2MoO_4 were extracted with acetone (2 - 3 N NaOH, $V_{aqueous\ phase} : V_{organic\ phase} = 2 : 1$, time of extraction: 5 - 10 minutes) giving radiochemically pure Tc^{99} (β - γ spectrum analysis: 290 $\pm$ 10 kev end-point energy). There are 2 figures and 4 tables. The English-language reference is: S. L. Taimuty, Phys. Rev., 81, 461 (1951).

SUBMITTED: February 10, 1962

Card 2/2

ZAMOSTOTSKAYA, M.

Workshop and store. Mest.prom.i khud.promys. 3 no.5:29 My '62. (MIRA 15:6)

1. Direktor fabriki No.1 individual'nogo poshiva odezhdy, g. Vitebsk.

(Vitebsk--Clothing industry)

FROL'KIS, V.V.; ZAMOST'YAN, V.P.

Age-related characteristics of the regulation of trophic processes in the skeletal muscles. Fiziol. zhur. [Ukr.] 9 no.5:596-600 S-O'63 (MIRA 17:4)

1. Laboratoriya fiziologii Instituta gerontologii i eksperimental'noy patologii AMN SSSR, Kiyev.

ZAMOST'IAN, V.P.

Age-related characteristics of the reaction of skeletal muscles to adrenaline. Fiziol. zhur. 49 no.1:122-126 Ja '63. (MIRA 17:2)

1. From the Physiological Laboratory, Institute of Gerontology and Experimental Pathology, Kiyev.

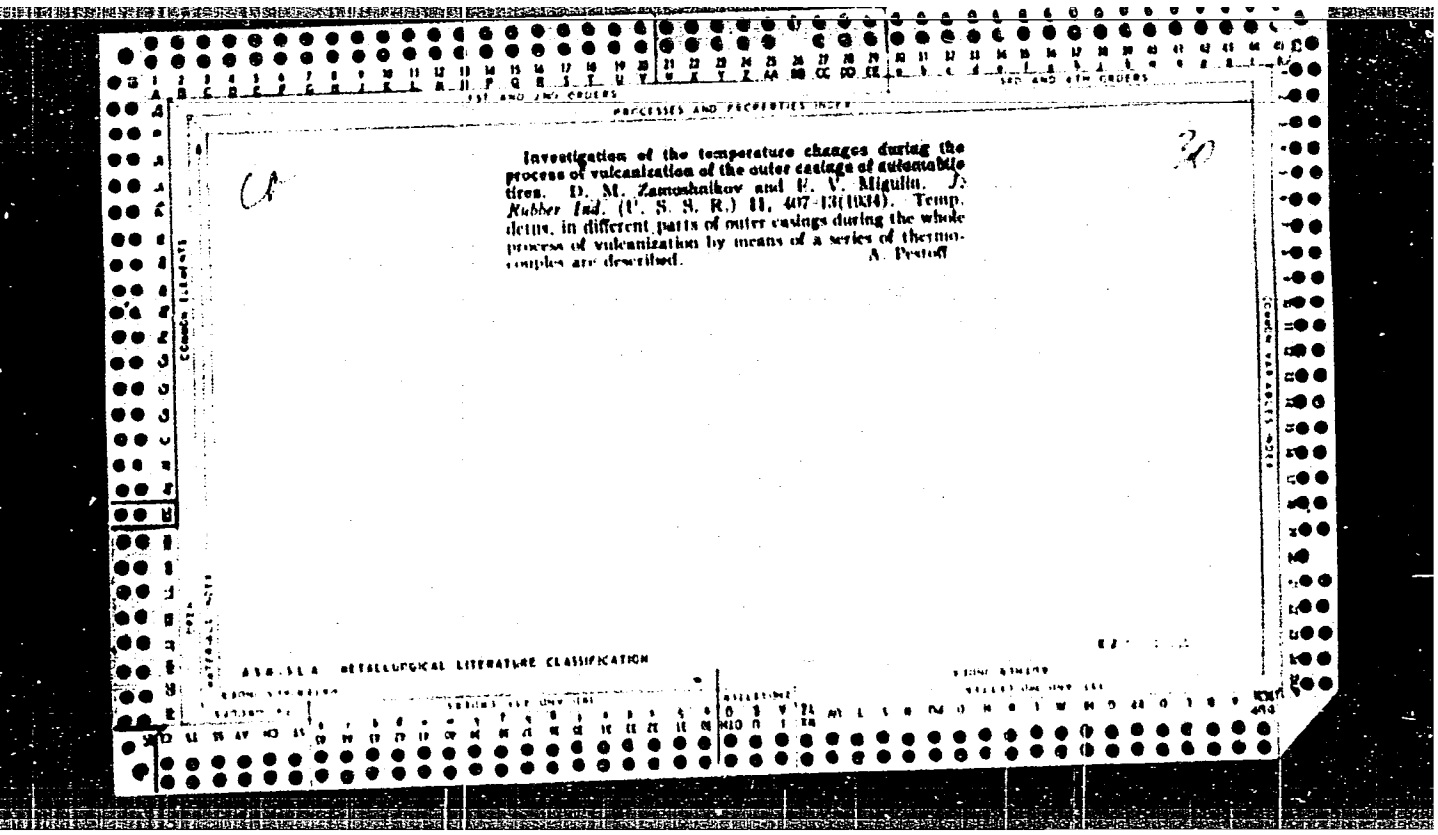
ZAMOTA, V.I.; SVICHINSKIY, N.N.; SERGEYEV, D.I., red.; TIKHONOVA, Ye.A., tekhn. red.

[Operation, repair, and modernization of the power plant on "Kazbek"-type tank vessels] Opyt ekspluatatsii, remonta i modernizatsii silovoi ustanovki tankerov tipa "Kazbek." Moskva, Izd-vo "Morskoi transport," 1963. 174 p. (MIRA 16:10)

(Marine diesel engines)

KHROMOV, V.Ye.; ZAMOTAYEV, G.I.

Using wear-resistant chromium plating in worm gears. Mashinostroitel' no.10:18-19 O '59. (MIRA 13:2)
(Chromium plating) (Gearing, Worm)



Investigation of the temperature changes during the process of vulcanization of the outer casings of automobile tires. D. M. Zamoshnikov and E. V. Migulin. *Rubber Ind.* (U. S. S. R.) 11, 407-13(1934). Temp. determs. in different parts of outer casings during the whole process of vulcanization by means of a series of thermocouples are described. A. Petroff

ZAMOTIN, B.A.

Natural foci of brucellosis. Zhur.mikrobiol., epid.i immun. 32 no.12:71-74 D '61. (MIRA 15:11)

1. Iz Kemerovskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(BRUCELLOSIS)

RUPP, Erzsebet; TOTH, Imre; ZAMORI, Zoltan

Statistical evaluation of angular correlation measurements.
Koz fiz kozl MTA 10 no.3:219-234 '62.

RYABCHENKOV, A.V., doktor khim.nauk, prof.; VELEMITSYNA, V.I., inzh.; ZAMOSHNIKOV, L.D., inzh.

Use of chemical nickel coating of pearlitic steel parts in the manufacture of power engineering turbines. Metalloved. i term. obr. met. no.12:30-33 D '62. (MIRA 16:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.

(Diffusion coatings) (Nickel)

ZAMOSTINA, M. A.

BOGDANOV, S.I.; ZAMOSTINA, M.A.

Automatic telegram processing. Vest.sviazi 17 no.10:39-40 O '57.
(MIRA 10:11)

1. Nachal'nik Upravleniya elektrosvyazi Ministerstva svyazi BSSR (for Bogdanov). 2. Starshiy inzhener Upravleniya elektrosvyazi Ministerstva svyazi BSSR (for Zamostina).
(Telegraph--Automatic systems)

ZAMOSTINA, M.A.

Organization of a system of straight connections in the telegraph network of the White Russian S.S.R. Vest. sviazi 23 no.5:13-14 My '63. (MIRA 17:4)

1. Starshiy inzhener proizvodstvennoy laboratorii Minskogo telegrafa.

ZAMOSTINA, M.A.

In the provincial telegraph offices of White Russia. Vest. sviazi 17 no.4:23 Ap '57. (MLRA 10:5)

1. Starshiy inzhener upravleniya elektrosvyazi Ministerstva svyazi Belorusskoy SSR.
(White Russia--Telegraph stations)

ZAMOSTNA M.

POLAKOVA, Z.; POPELKA, S.; TRUHLAR, P.; HARTOVA, E.; NECHVATALOVA, L.; PAUROVA, V.; ZAMOSTNA, M.; KRALIK, V.; LENOCH, F.; HAJKOVA, Z.; HNEVKOVSKY, O.; KADLECOVA, L.

Physical therapy in Bechterew's disease. II. passive exercises. Fysiat. vest. Praha 32 no.3:72-86 Apr 54.

1. Z II. kliniky pro ortopedii a detskou chirurgii Karlovy university v Praze, prednosta prof. MUDr. O.Hnevkovsky. Z vyskumneho ustavu chorob reumatickych v Praze, reditel prof. MUDr Fr.Lenoch. Z fysiatrickeho a balneologickeho ustavu Karlovy university v Praze, prednosta prof. MUDr Fr.Lenoch.

(SPONDYLITIS, ANCYLOSING, therapy
exercise ther.)
(EXERCISE THERAPY
ancylosing spondylitis)

PAVLAK, Radko, As. MUDr; NOSEK, Ivan, MUC; ZAMOSTNA, Oldriska, MUC

Investigation of deep sensitivity in lesions of the intervertebral disks by means of dermatokinesthesia. Lek listy 9 no.10: 217-219 My '54. (MEAL 3:8)

1. Z neurologicke kliniky Masarykovy university v Brne. Prednosta prof. MUDr Karel Popek.

(SKIN, in various diseases,
*intervertebral disks lesions, segmental disord. of sensitivity)
(INTERVERTEBRAL DISKS, diseases,
*manifest., segmental disord. of sensitivity in skin)

ZAMOSTNYY, N.I.

Growing broad beans in Chernozem soils. Zemledelie 6 no.11:51-52 N '58. (MIRA 11:11)

1. Institut zemledeliya i zhivotnovodstva zapadnykh rayonov USSR.
(Broad beans)

ZAMOSTNYY, N. I.

USSR / Cultivated Plants. General Problems. M-1

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24922

Author : Zamostnyy, N. I., Romanyuk, A. Yu.
Inst : The S.R.I. of Agriculture and Livestock Raising in the Western Rayons of the Ukrainian SSR
Title : The Horse Bean as a Filler

Orig Pub: Kartofel', 1957, No 2, 71-72

Abstract: Tests on filling potato plantings with horse beans were made in 1955-1956 by the Scientific Research Institute of Agriculture and Livestock Raising in the Western Rayons of the Ukrainian SSR. The medium ripening Jubel variety and late Karnea potatoes were taken for the tests. They had vegetation periods corresponding to those of the horse beans. Twenty tons per hectare of manure were applied under the potatoes, and a side dressing of

Card 1/2

ZAMOST'YEV, A.

Preventing fires caused by children. Pozh.delo 3 no.10:4-5 O '57. (MIRA 10:11)

1. Nachal'nik Upravleniya pozharnoy okhrany Ukrainy.
(Ukraine--Fire prevention)

ZAMOST'YEV, A.

Intensify fire prevention work. Pozh.delo 3 no.3:2-3 Mr '57.
(MIRA 10:4)

1. Nachal'nik upravleniya pozharnoy okhrany Ukrainskoy SSR.
(Ukraine--Fire prevention)

ZAMOTA, A.Ye., podpolkovnik, voyennyy shturman pervogo klassa; SEMOVSKIKH, R.N., podpolkovnik, voyennyy shturman pervogo klassa; SHARONOV, M.I., inzh.-mayor.

Using rectangular coordinates. Vest.Vozd.Fl. no.1:38-41 Ja '61.
(Bombing, Aerial)

PAVLOVSKIY, Nikolay Nikolayevich; BELYAN, Aleksandr Titovich; ZAMOTA, V.G., red.; GUREVICH, M.M., tekhn. red.

[High potato yields]Vysokie urozhai kartofelia. Moskva, Sel'khozizdat, 1962. 53 p. (MIRA 15:11)

1. Direktor sovkhoza "Vedrich" Rechitskogo rayona Gomel'skoy oblasti (for Pavlovskiy). 2. Glavnyy agronom sovkhoza "Vedrich" Rechitskogo rayona Gomel'skoy oblasti (for Belyan).
(Potatoes)

BEDNARSKAYA, G.A.; ZAMOTA, V.G.; KRAVCHENKO, Z.I.; SLAGODA, F.K.; PROKOF'YEVA, L.N., tekhn. red.

[Calendar for farmers, 1963]Sel'skii kalendar' 1963. Moskva, Sel'khozizdat, 1963. 190 p. (MIRA 16:2)
(Calendars) (Agriculture)

KISELEV, Anatoliy Nikolayevich; ZAMOTA, V.G., nauchn. red.;
MEL'NIKOVA, G.P., red.; TUKER, A.M., tekhn. red.

[Fundamental knowledge of agronomy] Svedeniia iz osnov agronomii. Moskva, Proftekhizdat, 1963. 98 p.
(MIRA 17:3)

CHAYLAKHYAN, M.Kh.; KOCHANKOV, V.G.; ZAMOTA, V.P.

Effect of gibberellin on the growth and yields of hemp and tobacco. Fiziol.rast. 7 no.3:340-343 '60.
(MIRA 13:6)

1. K.A. Timiryazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Gibberellins) (Hemp) (Tobacco)

YERMOSHKIN, N., inzhener; ZAMOTAYEV, A., inzhener.

Experience in operating high-pressure steam generators. Mor.i rech.flot 13 no.1:11-14 My '53. (MLRA 6:10)
(Steam boilers)

ZAMOTAYEV, A. I.: Master Agric Sci (diss) -- "Investigation of a system of agricultural engineering of potato cultivation as a factor determining the working conditions of potato-harvesting machines". Moscow, 1959. 19 pp (Moscow Order of Lenin Agric Acad im K. A. Timiryazev), 110 copies (KL, No 18, 1959, 126)

ZAMOTAYEV, I.P., kand.med.nauk

Early diagnosis of pulmonary insufficiency in pneumosclerosis.
Sov.med. 22 no.1:42-46 Ja '58. (MIRA 11:4)

1. Iz kafedry gospital'noy terapii (zav. - prof. V.M.Karatygin)
Sverdlovskogo meditsinskogo instituta.
(LUNG DISEASES
pneumosclerosis, early diag. of pulm. insuff. (Rus))

ZAMOTAYEV, I. P.

Thrombosis

Diagnosis of thrombosis of the pulmonary artery during life. Klin. med. 30, No. 6, 1952.

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

ZAMOTAYEV, N.

One of the oldest fire brigades in the country. Posh.delo 3 no.2:15-16 F '57. (MLRA 10:4)
(Shuya--Fire departments)

ZAMOTAYEV, N.P.

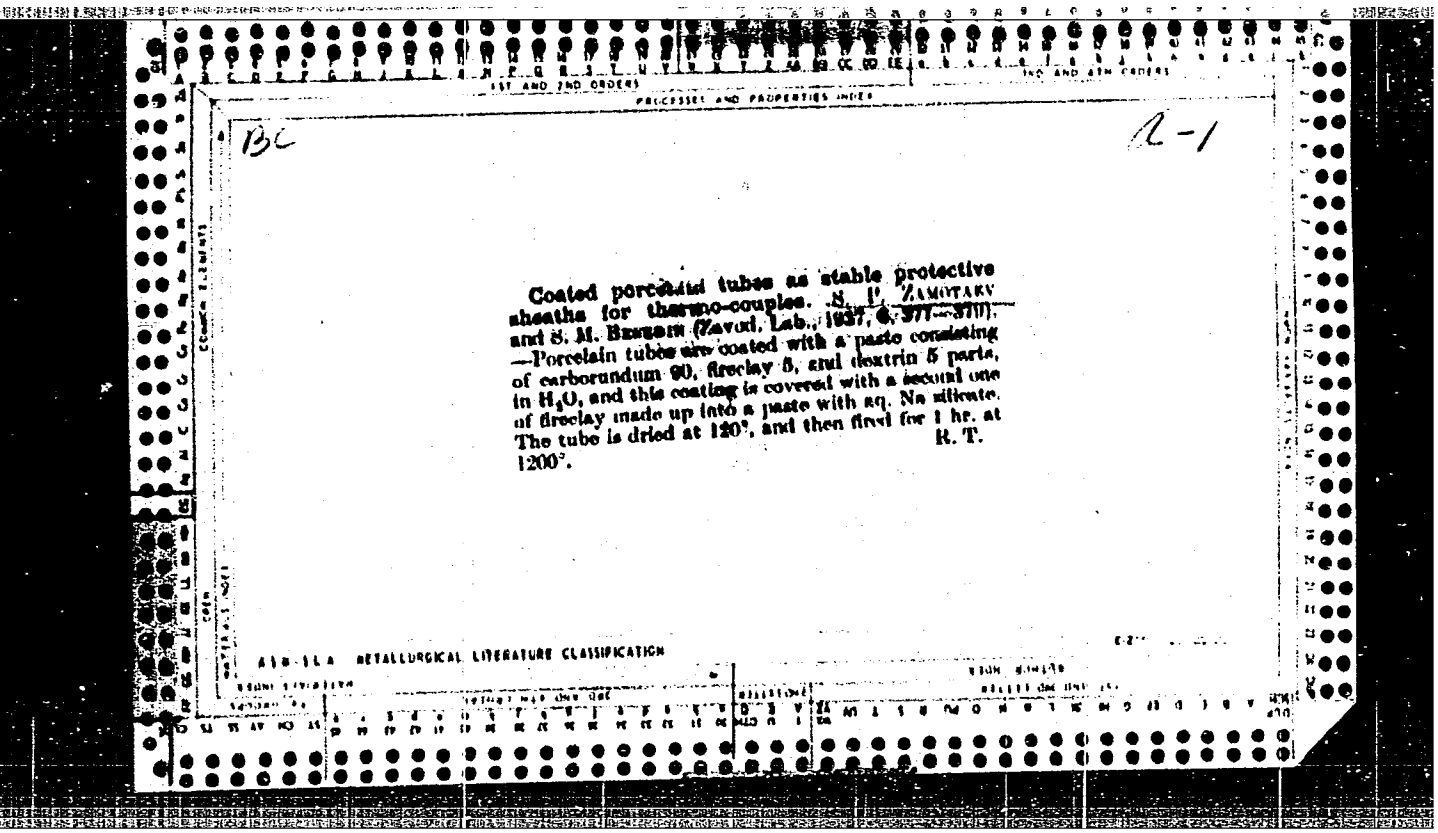
Thermal properties of wet wool fabrics. Izv. vys. uchen. zav., tekh. tekst. prom. no.3:21-25 '65. (MIRA 18:8)

1. Ivanovskiy tekstil'nyy institut imeni Frunze.

ZAMOTAYEV, I. P.

ZAMOTAYEV, I. P.--"Material on the Functional Diagnosis of Pneumosclerosis among Workers in Metallurgical Heat Treatment Shops." Sverdlovsk State Med. Inst., Sverdlovsk, 1955. (Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 35, 1955



BC

A-1

Coated porcelain tubes as stable protective sheaths for thermo-couples. N. I. Zamotaev and S. M. Barsom (Zavod. Lab., 1937, 6, 377—379). —Porcelain tubes are coated with a paste consisting of carborundum 90, fireclay 5, and dextrin 5 parts, in H_2O, and this coating is covered with a second one of fireclay made up into a paste with aq. Na silicate. The tube is dried at 120°, and then fired for 1 hr. at 1200°. R. T.

A10-11A METALLURGICAL LITERATURE CLASSIFICATION

ZAYCTAYEV, S. P.

"Research Methods for an Effective Mazut Torch," Stal', No. 3, 1948.

Engr., Ural Industrial Inst., -c1948-.

ZAMOTAYEV, S.P.

KITAYEV, B.I., professor, doktor tekhnicheskikh nauk; KOKAREV, N.I., dotsent, kandidat tekhnicheskikh nauk; ZAOSTROVSKIY, F.P., dotsent, kandidat tekhnicheskikh nauk; ZAMOTAYEV, S.P., inzhener; CHIKIL'DIN, A.A., inzhener; MOROZOV, N.A., inzhener; LEVIN, L.I., inzhener.

Prolonging the life and improving the performance of Martin furnace regenerators. Trudy Ural.politekh.inst. no.53:42-55 '55. (MLRA 9:5)

(Open-hearth furnaces)

PETROV, A.K.; SPERANSKIY, V.G.; KHIZHNICHENKO, A.M.; SHILYAYEV, B.A.; DANILOV, A.K.; BORODULIN, G.M.; ZAMOTAYEV, S.P.; MARKARYANTS, A.A.; SOLNTSEV, P.I.; SMIRNOV, Yu.D.; VAYNBERG, G.S.; OKOROKOV, N.V.; KOLOSOV, M.I.; SEL'KIN, G.S.; MEDOVAR, B.I.; LATASH, Yu.B.; YEFROYMOVICH, Yu.Ye.; VINOGRADOV, V.M.; SVEDE-SHVETS, N.N.; SKOROKHOD, S.D.; KATSEVICH, L.S.; SHTROMBERG, Ya.A.; MIKHAYLOV, O.A.; PATON, B.Ye.

Reports (brief annotations). Biul. TSNIICHM no.18/19:67-68 '57. (MIRA 11:4)

1. Zavod Dneprospetsstal' (for Speranskiy, Borodulin). 2. Chelyabinskiy metallurgicheskiy zavod (for Khizhnichenko). 3. Uralmashzavod (for Zamotayev). 4. Trest "Elektropech'" (for Vaynberg). 5. Moskovskiy institut stali (for Okorokov). 6. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for Sel'kin, Svede-Shvets). 7. Institut elektrosvarki AN USSR (for Paton, Medovar, Latash). 8. TSentral'naya laboratoriya avtomatiki (for Yefroymovich, Vinogradov). 9. Gisogneupor (for Skorokhod). 10. Trest "Elektropech'" (for Katsevich). 11. Tbilisskiy nauchno-issledovatel'skiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov (for Shtromberg).

(Steel--Metallurgy)

ZAMOTAYEV, S.P.

DUBROV, N.F., kand. tekhn. nauk; MIKHAYLOV, O.A., kand. tekhn. nauk; FEL'DMAN, I.A.; DANILOV, A.M.; SOROKIN, P.Ya., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; BUTAKOV, D.K., kand. tekhn. nauk, dots.; SOYFER, V.M.; LATASH, Yu.V., mladshiy nauchnyy sotrudnik; ZAMOTAYEV, S.P.; BEYTEL'MAN, A.I.; SAPKO, A.I.; PETUKHOV, G.K., kand. tekhn. nauk; YEDNERAL, F.P., kand. tekhn. nauk, dots.; LAPOTYSHKIN, N.M., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; ROZIN, R.M.; NOVIK, L.M., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; LAVRENT'YEV, B.A.; SHILYAYEV, B.A.; SHUTKIN, N.I.; GNUCHEV, S.A., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; LYUDEMAN, K.F., doktor-inzh., prof.; GRUZIN, V.G., kand. tekhn. nauk; BARIN, S.Ya.; POLYAKOV, A.Yu., kand. tekhn. nauk; FEDCHENKO, A.I.; AGEYEV, P.Ya., prof., doktor; SAMARIN, A.M.; BOKSHITSKIY, Ya.M., kand. tekhn. nauk; GARNYK, G.A., kand. tekhn. nauk; MARKARYANTS, A.A., kand. tekhn. nauk; KHAMAROV, A.D., prof., doktor tekhn. nauk; TEDER, L.I.; DANILOV, P.M.

Discussions. Biul. TSNIICHM no.18/19:69-105 '57. (MIRA 11:4)

1. Direktor Ural'skogo instituta chernykh metallov (for Dubrov). 2. Direktor TSentral'nogo instituta informatsii chernoy metallurgii (for Mikhaylov). 3. Nachal'nik nauchno-issledovatel'skogo otdela osobogo konstruktorskogo byuro tresta "Elektropech'" (for Fel'dman). 4. Nachal'nik martenovskoy laboratorii Zlatoustovskogo metallurgicheskogo zavoda (for Danilov, A.M.). 5. Laboratoriya protsessov stalevareniya Instituta metallurgii Ural'skogo filiala AN SSSR (for Sorokin).

(Continued on next card)

DUBROV, N.F.---(continued) Card 2.
6. Ural'skiy politekhnicheskiy institut (for Butakov). 7. Starshiy inzhener Bryanskogo mashinostroitel'nogo zavoda (for Soyfer). 8. Institut elektrosvarki im. Patona AN URSS (for Latash). 9. Nachal'nik TSentral'noy zavodskoy laboratorii "Uralmashzavoda" (for Zamotayev). 10. Dnepropetrovskiy metallurgicheskiy institut (for Sapko). 11. Moskovskiy institut stali (for Yedneral). 12. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for Gnuchev, Lapotyshkin). 13. Starshiy master Leningradskogo zavoda im. Kirova (for Rozin). 14. Institut metallurgii im. Baykova AN SSSR (for Novik, Polyakov, Garnyk). 15. Nachal'nik tekhnicheskogo otdela zavoda "Bol'shevik" (for Lavrent'yev). 16. Starshiy inzhener tekhnicheskogo otdela Glavspetsstali Ministerstva chernoy metallurgii (for Shilyayev). 17. Zamestitel' nachal'nika tekhnicheskogo otdela zavoda "Elektrostal'" (for Shutkin). 18. Freybergskaya gornaya akademiya, Germanskaya Demokraticheskaya Respublika (for Lyudeman). 19. Zaveduyushchiy laboratoriyey stal'nogo lit'ya TSentral'nogo nauchno-issledovatel'skogo instituta tekhnologii i mashinostroyeniya (for Gruzin). 20. Starshiy master elektrostaleplavil'nykh pechey Uralvagonzavoda (for Barin). 21. Zamestitel' nachal'nika elektrostaleplavil'nogo tsekha zavoda "Sibelektrostal'" (for Fedchenko). 22. Zaveduyushchiy kafedroy metallurgii stali i elektrometallurgii chernykh metallov Leningradskogo politekhnicheskogo instituta (for Ageyev). 23. Zamestitel' direktora Instituta metallurgii im. Baykova AN SSSR, chlen-korrespondent AN SSSR (for Samarin).

(Continued on next card)

DUBROV, N.F.---(continued) Card 3.
24. Nachal'nik laboratorii Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii (for Bokshitskiy). 25. Zaveduyushchiy kafedroy elektrometallurgii Sibirskogo metallurgicheskogo instituta (for Kramarov). 26. Nachal'nik elektrostaleplavil'nogo tsekha Kuznetskogo metallurgicheskogo kombinata (for Tedor). 27. Nachal'nik elektrometallurgicheskoy laboratorii Kuznetskogo metallurgicheskogo kombinata (for Danilov, P.M.).
(Steel--Metallurgy)

ZAMOTAYEV, S.P.

Our achievements and tasks. Zav.lab. 23 no.10:1272 '57.
(MIRA 10:12)

1.Nachal'nik TSentral'noy laboratorii Ural'skogo mashinostroite'nogo zavoda.
(Metallurgy)

Zamotayev S.P.

Use of Vacuum in Metallurgy (Cont.) Moscow, 533 Izd-vo AN SSSR, 1958, 165pp.
Trans. of a Conf. on above (Inst. Metallurgy, AN SSSR) (ed. SAMARIN, A.M.)

Vysotin, S.G. (Address) 123

Vysotin considers, on the basis of his investigations, that a very high vacuum and a longer-than-usual holding time are essential for the complete degasification of molten metal.

Zamotayev, S.P. (Address) 125

Zamotayev briefly describes tests conducted at the Uralmashzavod (Urals [Heavy] Machinery Plant) to determine the effect of vacuum treatment of the properties of steel.

Shul'te, Yu.A. (Address) 127

Industrial tests of the vacuum treatment of steel in the ladle, performed at the "Dneprospetsstal'" Plant, using methods developed by the Institute of Metallurgy of the Academy of Sciences, USSR, gave good results, especially in the case of transformer steel: content of carbon and sulfur was sharply reduced, and there were no rising or honeycombed ingots.

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ZAMOTAYEV, S.P.

PHASE I BOOK EXPLOITATION 1043

Ural'skiy zavod tyazhelogo mashinostroyeniya, Sverdlovsk

Proizvodstvo stali (Steel Production) Moscow, Mashgiz, 1958. 154 p.
(Series: Its Sbornik statey, vyp. 3) 4,000 copies printed.

Ed.: Zamotayev, S.P., Engineer; Tech. Ed.: Dugina, N.A.; Executive Ed.(Ural-Siberian Division, Mashgiz): Kaletina, A.V., Engineer.

PURPOSE: This book, published on the 25th anniversary of the Uralmashzavod (Ural Heavy Machine-building Plant imeni S. Ordzhonikidze) is intended for engineers, technicians and scientific workers concerned with the production of steel.

COVERAGE: The basic stages in the development of steel making during the 25 years of the existence of the Ural Heavy Machine-building Plant are described. The following achievements in the field of steel making technology are described: vacuum pouring, resulting in an improved quality of steel; production of ingots in a variety of special shapes; steel making in open-hearth and electric furnaces. Research work done by the central laboratory of the plant, including a study of the causes of the formation of internal cracks in heat-resistant steel ingots

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and a study of nonmetallic inclusions, macrostructure and intracrystalline liquation in large ingots, is also discussed.

TABLE OF CONTENTS:

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Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 8, p. 191, # 30006

AUTHORS: Zamotayev, S. P., Kvater, L. I., Sklyuyev, P. V.

TITLE: The Effects of Liquid Steel Degassing on the Quality of Large-Size Forgings of High-Alloyed Steel

PERIODICAL: Sb. statey. Ural'skiy z-d tyazh. mashinostr. imeni S. Ordzhonikidze, 1958, No. 5, pp. 59-72

TEXT: In order to investigate the effects of liquid steel degassing on the quality of forgings, 4 ingots of 15 tons each were cast in molds of ordinary design with stationary foundry heads, with and without vacuum. The ingots were cast from 3 melts of 34XN3M (34KhNZM) steel, smelted in an acid Siemens-Martin furnace by the semi-duplex method. Stepped blanks were forged from the ingots. For checking the smelt quality, templets of 20 mm thickness were cut out from the upper and lower part of the ingot. C-liquation in the forgings from ingots of ordinary pouring and from degassed ones, where the vacuum was removed after one third of the foundry head had been filled, was equal and insignificant.

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The Effects of Liquid Steel Degassing on the Quality of Large-Size Forgings of High-Alloyed Steel

A more intense liquation could be observed in forgings from degassed ingots where the vacuum was removed 42 minutes after the foundry head had been filled. A considerable liquation of S and P could not be found in a single forging. The results of ultrasonic checks and of periscopic examinations of the channels drilled in the forging showed that forgings which were held in the vacuum for a protracted period possessed more defects than others. The defects show much clearer after heat treatment. Despite the increased liquation, vacuum casting increases the ductility and resilience of steel, the uniformity of the indices of these properties, reduces the tendency to cold brittleness and refines primary dendrites. The content of non-metallic impurities in steel is considerably reduced. Vacuum casting of 34XMA (34KhMIA) steel considerably improved the quality of rotors and abruptly reduced the quantity of non-metallic impurities in the channel. The authors present investigation methods, chemical compositions of steels and the heat-treatment conditions of the forgings. They give a description of the defects which were observed during the forging process and cite tables of mechanical properties and contents of non-metallic impurities in the forgings. There are 7 figures.

V. I. M.

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

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25(0)

SOV/32-25-1-5/51

AUTHOR: Zamotayev S. P., Chief of the Central Factory Laboratory Uralmashzavod (Town of Sverdlovsk)

TITLE: Articles and Suggestions of the Directors of the Central Factory Laboratories in Connection With the Theses Laid Down by Party Member N. S. Khrushchev at the XXI Congress of the CPSU "Control Figures of the Development of National Economy of the USSR in the Years 1959-1965" (Stat'i i predlozheniya rukovoditeley Tsentral'nykh zavodskikh laboratoriy v svyazi s tezisami doklada tovarishcha N. S. Khrushcheva na XXI s"yezde KPSS "Kontrol'nyye tsifry razvitiya narodnogo khozyaystva SSSR na 1959-1965 gg.")

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 10-11 (USSR)

ABSTRACT: The above mentioned factory is expected to add an important contribution towards the development of certain industrial branches, namely, the iron and the nonferrous metallurgy, the mining industry, the mineral oil industry, and power engineering. This factory is confronted with the task of increasing the production of rolling mills by 2.5 times, of doubling the production of crushing and milling plants, of increasing that of tipper excavators by 8 times, of doubling that of mineral

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Articles and Suggestions of the Directors of the Central Factory Laboratories in Connection With the Theses Laid Down by Party Member N. S. Khrushchev at the XXI Congress of the CPSU "Control Figures of the Development of National Economy of the USSR in the Years 1959-1965"

oil drilling plants, etc. It is planned to construct a tipper excavator with a bucket having the capacity of 50 m^3, and a crane length of 125 m. The construction of a fully automatic clogging mill with an operational efficiency of 3.5-4 million tons is planned. The production of high-speed roller frames for cold rolling is to be increased to a great extent. New steel types are to be worked out, to be endowed with a greater strength and plasticity (resistance to destruction exceeding 140 kg/mm^2 and relative expansion to be more than 12%), for the construction of larger forgings (diameter 1000 mm and up). The technology of the thermal processing of rollers for cold-rolling, as proposed by TsNIITMash, is not sufficient and the rollers are to be re-treated. The need for spectroscopic analysis instruments is pointed out and the photoelectric stylometer FES-1 is specially mentioned.

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Articles and Suggestions of the Directors of the Central Factory Laboratories in Connection With the Theses Laid Down by Party Member N. S. Khrushchev at the XXI Congress of the CPSU "Control Figures of the Development of National Economy of the USSR in the Years 1959-1965"

ASSOCIATION: Tsentral'naya zavodskaya laboratoriya Uralmashzavoda (g. Sverdlovsk) (Central Factory Laboratory of the Uralmashzavod, Sverdlovsk))

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BELOV, N.Ya.; ASSONOV, A.D.; CHIZHIK, A.I.; ZAMOTAYEV, S.P.; BUTOMO, D.G.; SERGEYEV, L.N.; rukovoditel' issledovatel'skoy gruppy; MASUROVA, A.I.; SHUBIN, G.N.; NOVIK, A.A.; PODSHIVALOV, R.N.; ALEKSO, A.I.; KUZ'MINA, L.I.; KORF, D.M.; KOZACHENKO, N.S.

Articles and suggestions of supervisors of central industrial laboratories. Zav. lab. 25 no.1:5-22 '59. (MIRA 12:1)

1.Nachal'nik TSentral'noy zavodskoy labotarorii Kirovskogo mashinostroitel'nogo zavoda (for Belov). 2.Glavnyy metallurg Avtozavoda imeni Likhacheva (for Assonov). 3.Nachal'nik TSentral'noy zavodskoy laboratorii Leningradskogo metallicheskogo zavoda imeni Stalina (for Chizhik). 4.Nachal'nik TSentral'noy zavodskoy laboratorii Uralmashzavoda, g. Sverdlovsk (for Zamotayev). 5.Nachal'nik TSentral'noy laboratorii zavoda "Krasnyy Vyborzhets" (for Butomo). 6.Laboratoriya zavoda "Krasnyy Vyborzhets" (for Sergeyev). 7.Nachal'nik khimicheskoy laboratorii metallurgicheskogo zavoda imeni Petrovskogo (for Masurova). 8.Nachal'nik TSentral'noy laboratorii Verkh-Isetskogo metallurgicheskogo zavoda (for Shubin). 9.Zamestitel' nachal'-nika TSentral'noy zavodskoy laboratorii zavoda imeni Malysheva, g. Khar'kov (for Novik). 10.Zamestitel' nachal'nika TSentral'noy zavodskoy laboratorii Sverdlovskogo turbomotornogo zavoda (for Podshivalov). 11.Nachal'nik eksperimental'nogo otdela Spetsial'nogo konstruk-torskogo byuro Sverdlovskogo turbomotornogo zavoda (forAlekso). 12.Nachal'nik TSentral'noy laboratorii Okhtinskogo khimicheskogo kombinata (for Kuz'mina). 13.Nachal'nik TSentral'noy laboratorii zavoda "Krasnyy khimik" (for Korf). 14.Nachal'nik TSentral'noy zavodskoy laboratorii Kiyevskogo mashinostroitel'nogo zavoda "Bol'shevik" (for Kozachenko). (Chemical engineering laboratories)(Testing laboratories)

BRON, V.A.; ZAMOTAYEV, S.P.; MEDYAKOVA, M.V.; SEMAVINA, K.P.; KHORSHAVIN, L.B.

Production and plant testing of magnesite-chromite concrete. Ogneupory 26 no.3:115-123 '61. (MIRA 14:4)

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