

BELITSKIY, I., inzh.; NAUMENKO, I., inzh.

Designers and metallurgists are aiding chemists. Radio no.3:
3 Mr'64 (MIRA 17:7)

1. Tsentral'naya laboratoriya avtomatiki.

BELITSKIY, I.A.

Zeolites from the Anzas iron-ore deposit. Trudy Inst.geol.i
gecfiz.Sib.otd,AN SSSR no.4:99-104 '60. (MIRA 15:7)
(Sayan Mountains--Zeolites)

LUCHITSKIY, I.V.; BELITSKIY, I.A.; GROMIN, V.I.

Deformation of models of stratified rocks. Dokl. AN SSSR 144
no.5:1126-1128 Je '62. (MIRA 15:6)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
Predstavleno akademikom A.A.Trofimukom.
(Geological modeling)

BELITSKIY, I.A.; BUKIN, G.V.; GABUDA, S.P.; MIKHAYLOV, G.M.

Investigation of laumontite using the method of nuclear magnetic resonance. Dokl. AN SSSR 159 no.5:1038-1040 D '64 (MIRA 18:1)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
Predstavleno akademikom V.S. Sobolevym.

BELITSKIY, I.A.; BONDAREVA, N.Ya.

Synthetic gillaspite $BaFeSi_4O_{10}$. Dokl. AN SSSR 165 no.1:175-178 N
'65. (MIRA 18:10)

1. Severo-vostochnyy kompleksnyy nauchno-issledovatel'skiy institut
Sibirakogo otdeleniya AN SSSR. Submitted March 15, 1965.

ACC NR: AP7009085

SOURCE CODE: UR/0413/67/000/003/0059/0059

INVENTOR: Frid, Ye. A.; Azarkh, S. Kh.; Belitskiy, I. M.; Gribovskiy, P. O.; Davidyan, I. G.; Terent'yeva, T. I.

ORG: None

TITLE: A multiple-element piezoelectric ladder-network band filter. Class 21, No. 191008

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1967, 59

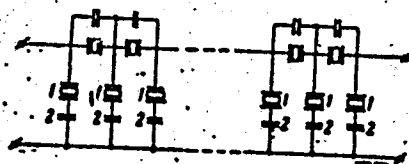
TOPIC TAGS: filter circuit, resonator, fixed capacitor, thermal stability, dielectric material

ABSTRACT: This Author's Certificate introduces a multiple-element piezoelectric ladder-network band filter consisting of a set of L-elements with series branches made up of resonators shunted by fixed capacitors. The temperature stability of the filter parameters is improved by using resonators with a positive frequency temperature coefficient connected in series with fixed capacitors in the parallel branches of the elements. The resonators may be made from barium titanate, calcium and lead with an additive of beryllium oxide. The fixed capacitors are temperature-dependent with a positive capacitance temperature coefficient, e. g. capacitors with a dielectric containing barium titanate, zirconium dioxide, barium carbonate and bismuth oxide.

Card 1/2

UDC: 621.372.543.2;621.372.412

ACC NR: AP7009085



1—resonators; 2—capacitors

SUB CODE: 09/ SUBM DATE: 11Sep65

Card 2/2

BELITSKIY, I. Z.

AUTHOR: Belitskiy, I. Z.

67-58-2-7/26

TITLE: The Automatic Oxygen Analyzer MGK-348 (Avtomaticheskiy kislородnyy gazoanalizator MGK-348)

PERIODICAL: Kislород, 1958, Nr 2, pp. 34-38 (USSR)

ABSTRACT: A series of such oxygen analyzers was designed by the Central Laboratory for Automatization of the "Energochermet" trust. In the section: The Principle of Function it is said that the said gas analyzer was built in accordance with the principle of thermomagnetic convection. This means that the paramagnetic gas particles which come into contact with the heated body located in the inhomogeneous magnetic field lose part of their magnetic properties and are then displaced by the following cooler particles of this gas. This phenomenon repeats itself and forms a convection current which is utilized in this case. In the section: Technical Data it is said that the aforementioned apparatus is destined for the uninterrupted measurement and recording of the percentage of oxygen in the gas mixtures, so that it can also be used in systems of automatic control. In the section: The Measuring Scheme the

Card 1/2

The Automatic Oxygen Analyzer MGK-348

67-58-2-7/26

measuring part of the gas analyzer is described (a wiring scheme and a photograph are attached). In the section: Construction of the Apparatus the individual components of the gas analyzers are described. The measuring camera with the magnetic system is here fitted into a thermostat, where a constant temperature of $45 \pm 0.3^{\circ}$ is maintained. Besides this gas analyzer the electron potentiometer VPG -359 is used for control. For the regulation of the gas current a rotametric regulator is used in this case. The gas analyzer described has been introduced in the Novotulskiy Metallurgical Plant and in the "Zaporozhstal'" works, and has given satisfactory results during the current period of operation as well as when used for the detection of the cause of breakdowns. There are 7 figures.

AVAILABLE: Library of Congress

1. Oxygen--Analysis--Function
2. Oxygen equipment--Operation
3. Oxygen equipment--Design

Card 2/2

L 40049-66 ENT(1) IJP(c) WN/JT

ACC NR: AP6022031

SOURCE CODE: UR/0120/66/000/003/0198/0202

AUTHOR: Nicol'skiy, A. P.; Belitskiy, I. Z.; Protsenko, V. M.; Yevlanov, I. Ya;
Nazarov, V. K.; Varenov, B. N.; Shmelev, V. I.; Kordonskiy, G. A.

26
B

ORG: Central Laboratory of Automatics, GKChTsMET, Moscow (Tsentral'naya laboratoriya avtomatiki)

TITLE: Automatic fluorescent x-ray spectrometer

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1966, 198-202

TOPIC TAGS: automatic spectrometer, x ray spectrometer

ABSTRACT: A newly developed all-wave vacuum fluorescent automatic x-ray spectrometer is briefly described; intended for both qualitative and quantitative analyses, the two-beam spectrometer permits programing of 24 lines. The programing unit has storages for these parameters: the Wulf-Bragg angle, discrimination threshold, discrimination-window width, standard or timer pulses, collimator type, sequence of interrogation of lines. These units are mentioned or described: x-ray optical system; primary and secondary collimators; crystal analysers (LiF and $NH_4H_2PO_4$); radiation detectors (proportional and NaI(Tl) scintillation counters); amplifiers, supply packs, etc. The BKhV-6 x-ray tube (50 kv, 100 ma) permits exciting the K-series of elements with $Z = 12-60$ and the L-series with $Z > 60$. Data regarding counting rates of pure elements is supplied. Orig. art. has: 3 figures and 1 table.

[03]

SUB CODE: 20, 09 / SUBM DATE: 14Apr65 / ORIG REF: 006 / OTH REF: 001

Card 1/1

UDC: 543.426

KAVETSKIY, Rostislav Yevgen'yevich; BELITSKIY, K.F.; TURKEVICH, N.M.

[Nature of malignant tumors] O prirode zlokachestvennykh opukholei. Moskva, Znanie, 1959. 30 p. (Vsesoyuznoe obshchestvo po rasprostraneniю politicheskikh i nauchnykh znaniy. Ser.8, Biologiya i meditsina, no.4). (MIRA 13:5)
(CANCER)

BELITSKIY, M., brigadir rabochikh ochistnogo zaboya.

One hundred thousand work rubles. Mast. ugl. 7 no.11:4 N '58.
(MIRA 11:12)

1. Shakhta imeni Lenina tresta Nesvetayanratsit.
(Coal mines and mining--Costs)

BELITSKIY, Mikhail Iyanovich, Geroy Sotsialisticheskogo Truda, brigadir
brigady rabochikh ochistnogo zaboya; KRONK, Leonkhard Antonovich,
Geroy Sotsialisticheskogo Truda, pomoashchnik мастера; DZAMASHVILI,
Arohil Vasil'yevich, Geroy Sotsialisticheskogo Truda, deputat
Verkhovnogo Soveta GruzSSR, master domennogo tsekha; TISHEYEV,
Saydulla, Geroy Sotsialisticheskogo Truda, plavil'shchik; REZNIKOV,
Aleksey L'vovich, Geroy Sotsialisticheskogo Truda, master.

We will achieve the triumph of communist labor. Okhr. truda i sots.
strakh. 3 no.7:5-12 JI '60. (MIRA 13:8)

1. Shakhta imeni Lenina tresta Nesvetayanratsit, Rostovskoy oblasti
(for Belitskiy). 2. Starotkatskaya fabrika ordena Lenina kombinata
"Krengol'skaya manufaktura" Estonskoy SSSR (for Kronk). 3. Zakavkazskiy
metallurgicheskii zavod imeni Stalina (for Dzamashvili). 4. Kadamzhay-
skiy metallurgicheskii zavod Yuzhnogo gornometallurgicheskogo kombinata
imeni Frunze, Kirgizskoy SSR (for Tisheyev). 5. Neftepromyslovoye
upravleniye "Nebitdagneft" Turkmenskoy SSR (for Reznikov).
(Technological innovations) (Industrial hygiene)

BELTSKIY, M. S. X

7845. BELITSKIY, M. S. I SITNIKOV, ya. M. Uvelichi-
vat' srok sluzhbykazhdogo
agregata. m., avtotransizdat, 1954. 32 C. 20 sm. (Opyt novatorov avtotransporta)
5000 ekz. 50k. soderzh: M. S. Belitskiy. peredovoy opyt ekspluatatsii avtomobilya.-
ya. m. sitnikov. uvelichivat srok sluzhby kazhdogo agregata.--(55-4303)P

656.13st

SO: Knizhnaya Letopis', Vol. 7, 1955

BELITSKIY, M. S.

BELITSKIY, M. S.: "Investigation of the operation and wearing of the neck connection of an articulated shaft — a thin-walled bearing in the exploitation of an automobile". Novochoerkassk, 1955. Min Higher Education. Khar'kov Automobile and Road Inst, Chair of Exploitation of Automobile Transport. (Dissertations for the Degree of Candidate of Technical Sciences.)

So: Knizhnaya letopis' No. 49, 3 December 1955. Moscow.

BELITSKIY, M.S.; dotsent.

Optimum rate of engine revolutions and speed performance of
automobiles. Nauch.trudy NPI 30(44):191-200 '55. (MLRA 9:11)
(Automobiles--Engines)

BELITSKIY, M.S.

BELITSKIY, M.S. dotsent, kandidat tekhnicheskikh nauk.

Maximum sizes of gaps in automobile engine bearings in operating conditions. Trudy NPI 33:204-211 '56. (MLRA 10:9)
(Bearings (Machinery)) (Automobiles--Engines)

BELITSKIY, M.S.
BELITSKIY, M., kand. tekhn. nauk.

Prolonging the life of automobiles. Avt. transp. 36 no.1:26-28 Ja
'58. (MIRA 11:1)

1. Novocherkasskiy politekhnicheskiy institut.
(Automobiles--Testing)

BELITSKIY, M.S.

PHASE I BOOK EXPLOITATION

SOV/4221

Novocherkassk. Politekhnikheskiy institut

Raboty mekhanicheskogo fakul'teta (Works of the Division of Mechanics)
[Novocherkassk] 1958. 203 p. (Series: Its: Trudy, tom 90) Errata slip
inserted. 2,000 copies printed.

Editorial Board: V.P. Mikhaylov (Resp. Ed.), Candidate of Technical Sciences,
Docent; A.A. Pyatnitskiy, Professor; P.M. Vlasov, Candidate of Technical
Sciences, Docent; I.N. Goncharov, Candidate of Technical Sciences, Docent;
P.P. Klochko, Candidate of Technical Sciences, Docent; N.M. Savin, Candidate
of Technical Sciences, Docent; and A.A. Kutukov (Resp. Secretary), Candidate
of Technical Sciences, Docent; Tech. Ed.: P.S. Baymatov.

PURPOSE: This book is intended for technical personnel in mechanical engineering.

COVERAGE: This collection of works deals with investigations of internal combus-
tion engines, metal cutting, gears, resistance-type strain gages, and wear
of machine parts. No personalities are mentioned. References accompany
several of the articles.

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Works of the Division of Mechanics

SOV/4221

TABLE OF CONTENTS:

Lyshevskiy, A.S. [Candidate of Technical Sciences, Docent, Department of Internal Combustion Engines]. Disintegration of a Nonviscous-Fluid Jet Emerging From a Split Jet Nozzle 3

By means of theoretical analysis the author establishes conditions of instability of the motion of a plane jet of nonviscous fluid with symmetrical and unsymmetrical disturbances and determines the length of the unbroken portion of the jet.

Lyshevskiy, A.S. Effect of the Surrounding Medium on the Stability and Disintegration of a Hollow Jet of Viscous Fluid 19

A theoretical investigation is made of the development of disturbances on the surface of a hollow jet of viscous fluid and the effect of air flow around the jet. A differential equation and its solution for the wave vibration of the fluid jet surface is presented.

Lyshevskiy, A.S. Regularities in the Change of Certain Parameters of the Indicated Process of High-Speed Diesel Engines 47

On the basis of two characteristic parameters of a combination process -- indicated efficiency and ignition lag, the author presents a generalization of experimental data obtained in testing high-speed diesel engines with open-type combustion chambers.

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- Lyshevskiy, A.S. On the Determination of the Amount of Fuel Leakage in Injection Pumps and Nozzles 65
The author presents a more accurate method of determining the rate of fuel leakage in the operation of a fuel injection pump and nozzle.
- Lyshevskiy, A.S. On the Determination of Fluid-Friction Force Between a Cam Follower and a Guide 71
Using a cylindrical coordinate system and assuming that the follower is subjected only to linear-reciprocating and rotary motion and that the oil-film pressure is constant, the author derives an expression for calculating fluid-friction force between cam follower and guide.
- Belitskiy, M.S. [Candidate of Technical Sciences, Docent, Department of the Operation of Automobile Transport]. Life of Valve-Gear Elements of an Automobile Engine in the Process of Operation 77
The author investigates the wear of camshaft pins, cams, and stems of followers and valves.
- Belitskiy, M.S. On the Problem of Limiting Allowable Clearance Between the Piston Skirt and the Cylinder Liner in an Automobile Engine 87
By means of hydrodynamic analysis of the oil film between two parallel
- Card 3/7

Works of the Division of Mechanics

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planes the author derives an expression for calculating the maximum allowable clearance between a cylinder liner and a piston skirt. With the formula derived, he makes calculations for a number of Soviet types of engines and concludes that presently used standard clearances are too small and may be increased to their maximum values as determined by calculation. The increase in clearance will result in the reduction of wear and repair costs.

Zimin, Yu.P. [Candidate of Technical Sciences, Docent, Department of Machine-Building Technology], and K.M. Stroyeva [Candidate of Technical Sciences, Docent, Department of Metal Technology]. Investigation of the Properties of High-Speed Steel Made From Chips

93

Chemical, macro-, and microstructural analysis, hardness tests, and determination of density and cutting properties were made for original and heat-treated specimens made of chips produced by milling of types P9 and P18 high-speed steels. Comparative tests were also made of cutting tools manufactured from the standard steels mentioned above and from their chips. The results show that the properties of cutting tools remain nearly the same in all cases.

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- Antonyuk, V.I. [Candidate of Technical Sciences, Docent], and N.S. Kolev [Candidate of Technical Sciences, Department of Machine-Building Technology].
Drilling Dynamometer With Wire-type Resistance Strain Gages 103
A dynamometer designed by the authors for measuring feed forces and torques in drilling, reaming, and threading is described. The dynamometer is of a simple construction and may be used not only in laboratories but also under production conditions. Its operation is found to be stable in the drilling of holes from 5 to 25 mm in diameter.
- Kolev, N.S. Friction in the Metal-Cutting Process 107
The author briefly reviews some of the data available on this subject and presents the results of an investigation of the effect of cutting depth and speed, feeds, and tool angles on the cutting process. He concludes that in metal cutting the molecular interaction between cutting-tool and work surfaces has a great effect on the consumption of energy and tool wear.
- Devin, L.P. [Docent, Department of the Theory of Mechanisms and Machine Parts]. Load-Carrying Capacity of Toothed Gears Made of DSP-G "Drevplastik" [Masonite-Type Material] and Working in Pairs With Steel Gears 117
The author presents a summary of results of a set of experimental investigations conducted on a specially built test installation in order to de-
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termine the effect of number of teeth, velocity ratio, and circumferential velocity on the performance of a pair of gears with one gear made of steel and the other of DSP-G "drevplastik." The maximum circumferential unit pressure (g/cm of the tooth width) under which no appreciable wear or failure occurred was used as a criterion in determining gear load-carrying capacity.

Chudutov, V.A. [Assistant Professor, Department of the Theory of Mechanisms and Machine Parts]. Performance of the Wire Grid of a Resistance-Type Strain Gage in a Zone of High Temperatures

131

Effect of temperature on the resistance of a strain-gage wire is investigated. Results show that the rate of change in the resistance is a function of time and heating temperature. It decreases with time and becomes stable when held for 8 hours at 150°C.

Chudutov, V.A. Effect of the Shape of the Wire Grid of a Resistance-Type Strain Gage on the Gage Factor

139

Effects of gage base, nonparallelism of grid wires, deformation of wires and part being tested, and the number of grid loops on the gage factor are investigated. Results show that for the gage bases from 2 to 5 cm long the change in the number of loops between the limits of 6 and 18 has very little effect on the gage factor.

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Savin, M.M. [Senior Instructor, Department of the Theory of Mechanisms and Machine Parts]. Ways of Improving Wear Resistance of Screw Mechanisms 159
The wear of screw mechanisms made of bronze, cast iron, and textolite with square and trapezoidal screw threads is investigated. Results show that the use of a modified cast iron bearing in place of bronze and the replacement of square threads by trapezoidal will increase the wear resistance.

Burak, A.K. [Assistant Professor, Department of Metal Technology and the Science of Metals]. A Method of Designing Hypoid Gears With Circular Tooth Form 171
The method described reduces design calculations and may be used in the design of hypoid gears with a spiral angle equal to zero.

Mamadzhanov, I.G. [Assistant Professor, Department of the Theory of Mechanisms and Machine Parts]. On the Problem of Stability in the Tightening of Bolted Joints Under Variable-Load Conditions 191
The author presents the results of a theoretical investigation of the process of loosening of bolted joints subjected to vibratory loads.

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VK/pw/sfm
9/29/60

BELITSKIY, Mikhail Semenovich, kand.tekhn.nauk; ANDREYEV, P.S., red.;
GALAKTIONOVA, Ye.N., tekhn.red.

[Increasing the running of a motor vehicle without repair]
Kak uvelichit' probeg avtomobilia do remonta. Moskva, Nauchno-
tekhn.isd-vo M-va avtomobil'nogo transporta i shosseinykh dorog
BSPSR, 1959. 37 p. (MIRA 13:3)
(Motor vehicles--Maintenance and repair)

BELTISKIY, M.S.

Using radioisotopes in measuring the wear of an automobile
engine under operating conditions. Trudy NPI 107:23-33 '60.
(MIRA 14:3)

(Radioisotopes--Industrial applications)
(Automobiles--Engines--Testing)

BELITSKIY, M.S.

Studying the effect of the temperature conditions of an automobile
engine on its wear. Trudy NPI 1123-12. '61. (MIRA 14:9)
(Automobiles--Engines)

BELITSKIY, M.S.

Effect of the uniformity of motion on the wear of an automobile engine. Trudy NPI 131:3-10 '62. (MIRA 16:3)
(Automobiles—Engines) (Mechanical wear)

HELITSKIY, M.S.

Engine braking of automobiles. Trudy NPI 131:97-104 '62.

(MIRA 16'3)

(Automobiles—Brakes)

L 32036-66 EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/WW/JG/DJ/AT/WH

ACC NR: AP6018606

SOURCE CODE: UR/0420/65/000/004/0076/0083

AUTHOR: Belitskiy, M. Ye.; Yas', D. S.; Parkhomenko, M. A.; Skopenko, I. P.

61
59

ORG: Kiev Institute of Civil Aviation (Kiyevskiy institut grazhdanskoy aviatsii);
Institute of the Problems of the Science of Materials, AN UkrSSR (Institut problem
materialovedeniya AN UkrSSR)

TITLE: Investigation of the strength and antifriction properties of mica crystal
materials with boron nitride additions

SOURCE: Samoletostroyeniye i tekhnika vozdushnogo flota, no. 4, 1965, 76-83

TOPIC TAGS: bearing, high temperature bearing, bearing material, packing material,
sintered material, mica containing material, boron nitride containing material,
antifriction material, heat resistant material

ABSTRACT: A new packing material of the UMB-SKT system for gas turbine and
compressor shafts has been proposed. These materials are made from a mixture of
fine powders of $KMg_3(Al-Si_3O_{10})F_2$ synthetic mica (specific weight 2.75 g/cm^2 ,
70-75 HB hardness) and boron nitride. In tests, the mixtures, containing 2-20% BN,
were moistened with a 10% polyvinyl alcohol solution, compacted under a pressure of
 $1.0-1.5 \text{ t/cm}^2$ and sintered in air at 1050-1070C. The sintered materials, which
had a porosity of 10-15%, were tested for compression and bend strength and for
antifriction properties in dry friction and in friction with lubrication. Mechanical

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ACC NR: AP6018606

tests showed that as boron nitride content increased from 2 to 20%, the compression strength of the materials decreased from 6.4 to 2.8 kg/mm², the bend strength from 2.6 to 1.4 kg/mm², and the hardness from 58 to 15 HB. In friction tests with a lubricant (MS-20 oil) at a speed of 1-4 m/sec under a specific pressure of 10-150 kg/cm², the friction coefficient of all tested materials decreased with increasing specific pressure at all testing speeds (see Fig. 1). Materials containing

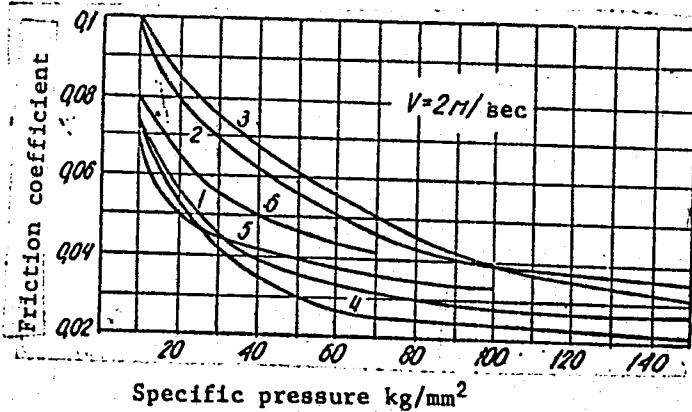


Fig. 1. Specific pressure dependence of the friction coefficient of UMB-5KT materials:

Containing 2% BN (1); 4% BN (2); 6% BN (3); 8% BN (4); 10% BN (5); and 15% BN (6). tested with lubrication.

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ACC NR: AP6018606

2
2 to 8% BN sustained a load up to 150 kg/mm², those with a higher BN content, up to 70 to 100 kg/mm², and no bearing seizure was observed in the entire range of the investigated pressures and speeds. Under dry friction, materials containing 4 to 8% BN had the best antifriction properties. The UMB-5KT parts are readily fabricated and machined. They have low hardness (55—14 HB), satisfactory strength and high heat resistance at temperatures up to 1100C. These qualities make it possible to use them as high-temperature packing materials and, also as materials for sliding bearings working under conditions of dry friction and, especially, under conditions of friction with lubrication. Orig. art. has: 8 figures. [MS]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 5019

Card 3/3 *Do*

L 27474-66 EWT(m)/EWP(e)/EWP(f)/ETC(m)-6 WW/WH

ACC NR: AP6015354 (A, N)

SOURCE CODE: UR/0226/66/000/005/0080/0088

AUTHOR: Belitskiy, M. Ye. (Kuybyshev, Kiev); Ivanov, B. G. (Kuybyshev, Kiev); Arvanin, B. V. (Kuybyshev, Kiev)

57
B

ORG: none

TITLE: Stand tests of UMB-4S sintered packing material

SOURCE: Poroshkovaya metallurgiya, no. 5, 1966, 80-88

TOPIC TAGS: turbine, gas turbine, gas turbine nozzle, gas turbine sealing, sealing material, sintered material/UMB-4S material

ABSTRACT: UMB-4S sintered packing material, recently developed by the Kiev Engineering Institute of Civil Aviation, has been stand-tested at 1250°K for 200-400 hr as a prospective sealing material for gas turbines of MV articles. UMB-4S withstood the tests with only insignificant changes in chemical composition, structure, and strength and is suitable for use in units with a service life of 1000 hr and over. The new packing material is superior to the presently used S-137 nickel-graphite composite and is recommended as a substitute for the latter in MV articles. Orig. art. has: 7 figures and 2 tables. (ND)

SUB CODE: 11/ SUBM DATE: 12Feb65/ ORIG REF: 003/ ATD PRESS: 4240

Card 1/1 BKG

L 1676-66 EWP(e)/EPA(s)-2/EWT(m)/EWP(w)/EPP(c)/EWP(1)/EWA(d)/EWP(t)/EPA(w)-2/
T/EWP(k)/EWP(z)/EWP(b) IJP(c) MJW/JD/WW/HW/JG/WB/WH

ACCESSION NR: AP5022546

UR/0226/65/000/009/0059/0064

AUTHOR: Belitskiy, M. Ye. 49, 57

TITLE: Developing the production technology of sintered Kh20N80 nichrome and investigating certain of its properties 68
63
15

SOURCE: Poroshkovaya metallurgiya, no. 9, 1965, 59-64 18

TOPIC TAGS: nichrome alloy, powder metal sintering, cermet, oxidation inhibition, gas turbines, heat resistance/ Kh20N80 nichrome alloy 14 19

ABSTRACT: Nichrome Kh20N80 undergoes minimum oxidation at 1000-1100°C and is highly heat-resistant. Hence the possibility of utilizing the sintered powder of this metal as the metal base for certain new cermets being developed for gas turbines is of great interest. However, the production of sintered chrome-nickel alloys by powder-metallurgical methods is fairly difficult owing to the proneness of chromium to oxidation; but this can be remedied by using halides as the reducing media or by using additives that yield low-melting eutectics which cause sintering to proceed in the presence of a liquid phase. An investigation of powdered Kh20N80 nichrome obtained by the method of the combined reduction of oxides

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ACCESSION NR: AP5022546

revealed that it is definitely suitable for use as a new high-temperature metal base for certain cermets, including the cermets used in the packings designed for high-temperature gas-turbine elements, and that specimens pressed from this powder are satisfactorily sintered in a hydrogen atmosphere. The optimal sintering regime is: 1250°C for 1-3 hr. Specimens of sintered Kh20N80 nichrome display sufficiently high mechanical properties and a satisfactory heat resistance up to a temperature of 1100°C and their porosity does not exceed 15-20%. Orig. art. has: 7 figures.

ASSOCIATION: Miyevskiy institut inzhenerov Grazhdanskoj aviatsii (Kiev Institute of Civil Aviation Engineers) 44.75

SUBMITTED: 13Feb65

ENCL: 00

SUB CODE: M1, M1

NO REF SOV: 003

OTHER: 004

Card 2/2

ACCESSION NR: AP4029205

S/0226/64/000/002/0040/0045

AUTHOR: Kostetskiy, B. I.; Belitskiy, M. Ye.; Natanson, M. E.

TITLE: Determination of carbon and silicon in nickel-based metal-powder sealing materials using spectral analysis

SOURCE: Poroshkovaya metallurgiya, no. 2, 1964, 40-45

TOPIC TAGS: powder metallurgy, nickel, silicon, graphite, nickel base material, silicon containing material, graphite containing material, carbon, spectral analysis

ABSTRACT: The purpose of this paper is to study the necessity of conducting layer-by-layer spectrum analysis in order to show the changes to which the chemical composition of surface layers and alloys are subjected under certain conditions. The analysis was conducted at a gap width of 0.005 mm in a standard 3-lens condensor system. Exposure time was 40 sec. The following analytic pairs of lines were chosen for analysis: C I 2478.57 Å-Ni II 2473.15 Å; Si I 2881.58 Å-NiII 2864.15 Å. The distribution of the silicon and carbon content in the sealing material was plotted. The spectral analysis made it possible to select

Card 1/2

ACCESSION NR: AP4029205

materials that were more stable in chemical composition and durability. In conclusion, the authors claim that existing materials for seals should be more rationally used by taking into account the changes to which they are subjected during their exploitation. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Kiyevskiy institut grazhdanskogo vozdušnogo flota
(Kiev Institute of Civil Aviation)

SUBMITTED: 07Jun63

ATD PRESS: 3081

ENCL: 00

SUB CODE: MM, OP

NO REF SOV: 005

OTHER: 000

Card

2/2

BE LITSKIY, N,
MIKHAYLOV, B., BELITSKIY, N.

Building swine and poultry houses on collective farms in Tambov Province. Sel'. stroi. 12 no.8:18-20 Ag '57. (MIRA 10:9)

1. Glavnyy inzhener Tambovskogo oblastnogo upravleniya po stroitel'stvu v kolkhozakh (for Mikhaylov).
 2. Glavnyy inzhener Tambovskogo filiala proyektnoy kontory "Saratovgidrogorsel'strcy" (for Belitskiy).
- (Swine houses and equipment) (Poultry houses and equipment)

ACC NR: AP6036394

SOURCE CODE: UR/0032/66/032/011/1413/1416

AUTHOR: Belitskiy, M. Ye.; Yas', D. S.

ORG: Kiev Institute of Civil Aviation Engineers (Kievskiy institut inzhenerov grazhdanskoj aviatsii)

TITLE: Unit for testing the antifriction properties of sealants

SOURCE: Zavodskaya laboratoriya, v. 32, no. 11, 1966, 1413-1416

TOPIC TAGS: sealant packing material, antifriction material, sealant antifriction property, sealant wear resistance, test stand, high speed test stand

ABSTRACT: A high-speed laboratory unit for testing the friction and wear of antifriction packing materials under simulated service conditions is described. The unit incorporates a drive, a main shaft assembly for the face end and radial loading, an airtight chamber for testing materials in aggressive media, attachments for grinding the working surfaces and protective casing, and a control panel. The unit makes possible tests of packing materials in air and in liquid or gaseous media at sliding speeds varying from 7 to 540 m/sec and at specific pressures up to 30 kg/cm². Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 5107
Card 1/1 UDC: 620.178.162

BELITSKIY, P., inzh.; DZURGUDAKOV, V., inzh.

Master blast-setters included in miner crews. Sov.shakht. 10
no.4:21 Ap '61. (MIRA 14:9)
(Kuznetsk Basin—Blasting)

BELITSKIY, V.; GONZAL'YEZ, E.

Medicine without a prescription;Feuilleton. Za bezop.dvizh. 6 no.
8:12-13 Ag '63.

*

BELITSKIY, V.A., inzh. (Leningrad)

Towards the purity of city air. Vod. 1 san. takh. no.8:28-29
Ag '64 (MIRA 18:1)

BELITSKIY, V.I. [Bielyts'kyi, V.I.]

More on the work of the periodical "Khirurgia." Farmatsev.
zhur. 16 no.4:73-76 '61. (MIRA 17:6)

1. Direktor spetsial'nogo aptekarskogo magazina No.6
"Khirurgiya", Poltava.

BELITSKIY, V.I.

Synchronization of multiphase transistor multivibrators. Elektro-
sviaz' 19 no.9:24-29 S '65. (MIRA 18:9)

L 01064-67 EWT(1)/EWT(m) JD
ACC NR: AP6015571 (N) SOURCE CODE: UR/0146/66/009/002/0012/0017

AUTHOR: Belitskiy, V. I. 43

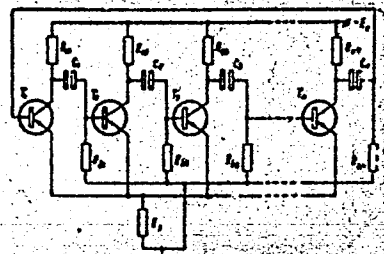
ORG: Military Engineering Academy im. A. F. Mozhayskiy (Voyennaya inzhenernaya Krasnoznamennaya akademiya) B

TITLE: Operation of a semiconductor multiphase multivibrator 25

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 2, 1966, 12-17

TOPIC TAGS: multivibrator, multiphase multivibrator, *semiconductor device*

ABSTRACT: The processes transpiring in an N-phase multivibrator (see figure) are described by N pairs of nonlinear differential equations. The phase space is subdivided into "fast" and "slow" motions, each having N dimensions. Oscillation types and stability of operation are inferred from an analysis of the equations that describe the "slow" motions. It is pointed out that such a multivibrator is capable of generating both



Principal circuit of a multiphase multivibrator

Card 1/2

UDC: 621.373.431.1

L 01064-67

ACC NR: AP6015571

relaxation and continuous waves. Formulas determining time and amplitude characteristics of the multivibrator are derived for the most practical case — the pulse distributor type operation. Orig. art. has: 2 figures and 15 formulas.

SUB CODE: 09 / SUBM DATE: 17May65 / ORIG REG: 002

Card 2/2 *ULP*

ACC NR: AP6033467

SOURCE CODE: UR/0413/66/000/018/0052/0052

INVENTOR: Belitskiy, V. I.

ORG: None

TITLE: A transistorized multiple-phase multivibrator. Class 21, No. 185959.

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 52

TOPIC TAGS: multivibrator, transistorized oscillator, relaxation oscillator

ABSTRACT: This Author's Certificate introduces a transistorized multiple-phase multivibrator with high thermal stability having diodes connected in the base circuit of each transistor. Provision is made for compensating the effect of back currents on the duration of the pulses which are generated and for protecting the emitter junctions from reverse breakdown. A semiconductor diode made from the same material as the transistors is connected in the common emitter circuit and shunted by a capacitor.

SUB CODE: 09/ SUBM DATE: 23Apr64

Card 1/1

UDC: 621.373.431.1

BELITSKIY, YAKOV
BELITSKIY, Yakov

Conceived and accomplished. Un.tekh.no.12:13-16 D '57. (MIRA 10:12)
(Technical education)

LIPGART, A.A., doktor ~~tekh.~~ nauk, prof., zasluzhennyy deyatel' nauki i tekhniki RSFSR; GRISHIN, M.D.; BELITSKIY, Ya.S.; MEZHEVICH, F.Ye., inzh.; KORMILITSYN, A.M.; MALINOVSKIY, G.S., master sporta, sud'ya respublikanskoy kategorii

Makers of automobiles. Tekh. mol. 31 no.9:12-15 '63. (MIRA 16:9)

1. Zamestitel' direktora Nauchno-issledovatel'skogo avtomotornogo instituta (for Lipgart). 2. Chlen yuridicheskoy komissii pri Sovete Ministrov SSSR (for Grishin). 3. Predsedatel' seksii avtomototurizma Gosudarstvennogo mekhanicheskogo zavoda, Odesa (for Belitskiy). 4. Rukovoditel' ekspertnoy gruppy po avtomobil'nomu transportu Gosudarstvennogo komiteta po delam izobretaniy i otkrytiy pri Sovete Ministrov SSSR (for Mezhevich). 5. Nachal'nik Gosudarstvennoy Avtomobil'noy inspektsii RSFSR (for Kormilitsyn). 6. Chlen Komiteta po kartingu Tsentral'nogo avtomotornogo kluba Dobrovol'nogo doma sodeystviya armii, aviatsii i flotu SSSR (for Malinovskiy).

(Automobiles—Design and construction)

BELITSKIY, Ye. M.

AID Nr. 975-5 23 May

RADIO SOUNDING OF PLASMA MOVING AGAINST ELECTRODYNAMIC
ACCELERATION IN A COAXIAL ACCELERATOR (USSR)

Brodskiy, V. B., Ye. M. Belitskiy, A. T. Voronchev, N. V. Konyakhin,
and Yu. N. Starostin. Zhurnal tekhnicheskoy fiziki, v. 33, no. 4, 1963, ...
426-428. S/057/63/033/004/010/021

The relationship existing in a plasma between number of charged particles ejected both in and against the direction of electrodynamic acceleration has been evaluated to analyze processes occurring in a coaxial accelerator. A method is described for using two different wavelengths ($\lambda_1 = 0.8$ cm and $\lambda_2 = 3$ cm) simultaneously, by which the relationship between these quantities can be obtained. It was found that a plasmoid with a concentration of at least $n_1 > 10^{13}$ electrons/cm³ was moving in the direction of electrodynamic acceleration. The time it took for the plasmoid to cross the beam was

Card 1/2

AID Nr. 975-5 23 May

RADIO SOUNDING OF PLASMA [Cont'd]

s/057/63/033/004/010/021

$\tau_1 = 80 \mu\text{sec}$. A plasmoid with a concentration $n_2 \approx 10^{12}$ electrons/cm³ was moving in the reverse direction. Its time of crossing was $\tau_2 = 40 \mu\text{sec}$. Velocities of the plasmoid fronts moving in the direction of electrodynamic acceleration and against it were $V_1 = 10^7$ cm/sec and $V_2 = 4 \cdot 10^6$ cm/sec, respectively. Consequently, the relationship between the quantity of charged particles in plasmoids has the following form:

$$\frac{V_2 n_2 \tau_2}{V_1 n_1 \tau_1} \ll 0.02,$$

[KM]

Card 2/2

L0929

S/135/62/000/010/005/006
A006/A101

1,2300,

AUTHORS: Stoblov, Yu. I., Belitskiy, Yu. I., Engineers

TITLE: Redesigned breaker for spot welding with several pulses

PERIODICAL: Svarochnoye proizvodstvo, no. 10, 1962, 34 - 35

TEXT: In spot-welding high-strength steels three-pulse welding is used to assure high-quality production. "Heating-pause-welding-peening-tempering-cooling is the program for martensite class steels, and "heating-pause-welding-pause-secondary welding-peening", for ferrite-austenite type steels. Three-pulse welding is carried out with the use of a redesigned series-produced ПИТ-100-2 (PIT-100-2) breaker; each pulse is separately controlled in time; current strength and pause duration. The additional breaker parts are mounted on a separate attachment and consist of a step-by-step switch with power sources, an additional relay and a block. Additional commutators and variable resistances are mounted on the control desk. The step-by-step switch contacts are parallel-connected in order to obtain a four-step switch instead of a twelve-step one. It changes over the following circuits: pause time circuits in the regulator; welding time circuits in

Card 1/2

Redesigned breaker for spot welding with...

S/135/62/000/010/005/006
A006/A101

the PIT trigger system; heating degree circuits in the phase-rotating PIT circuit. The operation of the breaker is described. Spot welding machines redesigned for three-pulse welding have been operating accurately and continuously for 2 years. There are 2 figures.

UX

Card 2/2

Probably N4

BELITSIN, H.N., inzhener.

Better results by using simplified methods of staple fiber spinning. Tekst.prom.17 no.2:28-30 F '57. (MLRA 10:2)
(Rayon spinning)

N.M (2)

BELITSYN, M.N., insh.

Simple method of cross winding. Tekst.prom. 18 no.5:74 My '58.
(Germany, East--Textile machinery) (MIRA 11:5)

N.M. (2)

BELITSIN, M.N., inzh.

Device used for changing speeds within a wide range. Tekst. prom.
18 no. 7:60 JI '58. (MIRA 11:7)

(Textile machinery)

BELITSKIY, M.Ye.

Developing a technology for the manufacture and study of
certain properties of sintered Kh_2ON_8O nichrome. Porosh.
met. 5 no.9:59-64 S 165. (MIRA 18:9)

1. Kiyevskiy inatitub inahenerov Graahdanskoy aviatsii.

L 21174-66 ENT(1)/EWP(e)/EWT(m)/EJA(d)/T/EWP(t) IJP(e) JD/WJ/JG/DJ/WH
ACC NR: AF6009608 (A) SOURCE CODE: UR/0369/66/002/001/0067/0071

AUTHOR: Belitskiy, M. Ye.; Kostetskiy, B. I. 56
13

ORG: Kiev Civil Aviation Engineering Institute (Kiyevskiy institut inzhenerov
grazhdanskoy aviatsii)

TITLE: A study of dry friction of some cermets at high sliding speeds 6

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 1, 1966, 67-71

TOPIC TAGS: cermet, bearing, antifriction additive, graphite lubricant, dry
lubricant

ABSTRACT: The usefulness of packing material is determined² by the absence of exces-
sive hardness, high heat resistance, and good antifriction properties. The authors
investigated the qualitative and quantitative aspects of dry friction in cermets
S-120 and UMB-4s at sliding speeds from 5 to 100 m/sec. At high sliding speeds the
upper levels of the packing material develop high temperatures, leading to substan-
tial changes in the structure and properties of the material. Oxide films which are
formed at high temperatures tend to prevent the occurrence of seizing. Graphite⁵ and
boron nitride were used as antifriction additives. At sliding speeds above 70 m/sec
graphite burns out as a result of the high temperatures developed. Boron nitride²
proved to be chemically more stable throughout the entire range of speeds investi-
gated. Orig. art. has: 2 figures. [VS] 2

Card 1/2

L 21174-66

ACC NR: AP6009608

SUB CODE: 11/ SUBM DATE: 15Oct64/ ORIG REF: 001/ ATD PRESS: 4222

Card 212 BK

L 26271-66 EWT(m)/T DJ

ACC NR: AP6012770

SOURCE CODE: UR/0226/66/000/004/0040/0044

AUTHOR: Belitskiy, M. Ye.

52
B

ORG: Kiev Institute of Civil Aviation Engineers (Kiyevskiy institut inzhenerov grazhdanskoj aviatsii)

TITLE: Investigation of the chemical stability of solid lubricants at high temperatures

SOURCE: Poroshkovaya metallurgiya, no. 4, 1966, 40-44

TOPIC TAGS: sealant, high temperature sealant, lubricant, solid lubricant, high temperature lubricant, lubricant property, graphite, molybdenum disulfide, boron nitride, zinc oxide, mica

ABSTRACT: In a search for new solid lubricants for use at high temperatures, the chemical stability of molybdenum disulfide, zinc oxide, boron nitride, mica, and P-grade silvery graphite (used in conventional packing materials) has been investigated in air, argon, nitrogen, and hydrogen atmospheres at temperatures ranging from 100 to 1250C. The test results showed the oxidation loss of graphite in air to be relatively low (6-7%) at 500C, but very high (30-35%) above 700C. In molybdenum disulfide the oxidation weight loss in air begins at 100C; it increases continuously with increasing temperature, and reaches 18-20 and 48-50% at 600 and 700C, respectively. A similar behavior was observed in tests in argon, nitrogen, and hydrogen at 1000-1250C. At 1250C molybdenum disulfide exhibited the lowest

Card 1/2

2

L 26271-66

ACC NR: AP6012770

degree of dissociation (30%) in argon and the highest (92%) in nitrogen. This makes the production of sintered materials with a given content of molybdenum disulfide difficult, and its dissociation in an oxidizing medium makes it unsuitable for use as a solid lubricant for high-temperature packing materials. Zinc oxide has high chemical stability in air up to 1000C, but is completely reduced with sintering in hydrogen and partially evaporated with sintering in argon at 1150—1250C. Boron nitride does not oxidize in air up to 800C, but rapidly oxidizes at higher temperatures and at 1000C its weight gain increases to 30—32%. Commercial-grade boron nitride stabilized in an atmosphere of dissociated ammonia at 1800, 2000, and 2200C for 3 hr exhibited only insignificant changes in its behavior in air oxidation. Boron nitride is stable in argon and hydrogen at temperatures up to 1250C. It undergoes an additional saturation with nitrogen in a nitrogen medium, as a result of which its weight gain reaches 21-23% at 1250C. The above properties make boron nitride a promising solid lubricant in high-temperature packing materials. Of the mica tested, phlogopite had better chemical stability and contained less fixed water than muscovite. Phlogopite had high stability in all tests and can be considered the best solid lubricant for packing materials working at temperatures above 800—900C. For materials working at temperatures up to 800—900C, boron nitride can be recommended instead of graphite. Orig. art. has: 7 figures. [MS]

SUB CODE: 11/ SUBM DATE: 20Oct65/ ORIG REF: 003/ OTH REF: 004/ ATD PRESS:

4243

Card

2/2

cc

L 40784-66 EWP(e)/EWT(m)/EWP(v)/T/EWP(t)/ETI IJP(c) WH/NW/JD/JG
ACC NR: AP6018607 SOURCE CODE: UR/0420/65/000/004/0084/0090

AUTHOR: Belitskiy, M. Ye.; Yas', D. S.; Parkhomenko, M. A.; Skopenko, I. F.

90
88
B

ORG: Kiev Institute of Civil Aviation (Kiyevskiy institut grazhdanskoy aviatsii);
Institute of Problems in the Science of Materials AN UkrSSR (Institut problem materi-
alovedeniya AN UkrSSR)

TITLE: Investigating the thermal stability of new packing materials in the UMB-5KT system

SOURCE: Samoletostroyeniye i tekhnika vozdushnogo flota, no. 4, 1965, 84-90

TOPIC TAGS: thermal stability, gas turbine engine, aircraft engine, high temperature oxidation, nonclay refractory product, packing material/ UMB-5KT packing material, K30/70 packing material

ABSTRACT: The authors study the problem of deterioration of sealing inserts in aircraft turbines due to the effect of gas flow. It is shown that the properties of sealing inserts may be radically improved by using new materials in the UMB-5KT system. The base used in these materials is a synthetic roasted crystalline mica with high thermal stability, and the binder is boron nitride which is chemically inert in an oxidative atmosphere to 800-900°C. The thermal stability and changes in some of the strength properties of the new materials were studied during protracted oxidation.

Card 1/2

L 40781-66

ACC NR: AP6018607

Parallel control tests were conducted using conventional K30/70 packing material with a heat-treated graphite^{1,2} base and additives of various refractory compounds. Specimens measuring 7x7x70 mm were tested for thermal stability at 300-1100°C with a maximum holding of 100 hours at each temperature except that maximum holding was 15 hours at 1100°C. Thermal stability was evaluated by the change in weight of the specimens. The results show somewhat of a reduction in the strength properties of the new materials with practically no change in thermal stability when the boron nitride concentration is increased. Protracted oxidation increases the strength properties of the materials which makes them useful for long-term application under conditions of periodic low bending and compressive stresses which are generated by distortion of guide vane assemblies. The optimum composition for the packing material is determined by its mechanical strength, erosion resistance and running-in properties. The new materials showed higher thermal stability than the control material from 20 to 1100°C. There are practically no changes in the chemical composition and structure of the materials during oxidation and they also have the advantage of low hardness (20-40 HB) which should make them useful for packing the flow sections of compressors in gas turbines. The experimental results show that K30/70 material has satisfactory thermal stability only up to 500°C and cannot be recommended for protracted operation at higher temperatures. Orig. art. has: 6 figures, 1 table.

SUB CODE: 01, 11, 13 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 001

Card 2/2 M L P

ACC NR: AP7004190 (A, N) SOURCE CODE: UR/0369/66/002/006/0702/0706

AUTHOR: Belitskiy, M.Ye.

ORG: The Kiyev Institute of Civil Aviation Engineers

TITLE: Some aspects of designing sealing materials for gas turbines. with consideration of physicochemical factors

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 6, 1966, 702-706

TOPIC TAGS: gas turbine, gas turbine sealing ~~material~~ ^{device}, sintered material, sintered sealant, nickel mica sealant, oxidation resistant material, heat resistant material

ABSTRACT: Since the nickel-silicon graphite sealants presently used for gas turbines have a short service life, a search has been conducted for a sealant which can operate at 850-950°C for 2000-4000 hr. The search resulted in the development of several new sealants. One of them, the "self enameling" UMB-1S, consists of nickel and 4-16% mica. It can be easily compacted and formed, and has a satisfactory strength. UMB-1S is sintered at 1150°C for 1-3 hr in ammonia gas or in vacuum. With an increase in mica content the sealant hardness and strength decrease. Its oxidation resistance is good at temperatures up to 700°C but drops at 800-900°C owing to the oxidation of the nickel base. At this

Card 1/2

UDC: none

ACC NR: AP7004190

temperature the bend strength of sealant with 8% mica increases from 9 to 16 dan/mm², and the hardness from 46 to 78 dan/mm². At 900—950°C a thin protective enamel-like film is formed on the material surface as a result of the reaction of mica with nickel oxide. This self-enameling sharply increases the oxidation resistance. The anti-friction properties of mica permit its use as a lubricant instead of graphite. This sealant is recommended for gas turbines operating at high temperatures, but further efforts should be directed to finding special additions which will induce self-enameling at 700—900°C. Another sealant, UMB-4S nichrome-boron nitride material, was developed as a sealant for aircraft engines operating at high temperature to replace nickel-silicon-graphite material. This sealant can operate at 800—950°C for 2000—4000 hr. The UMB-5KT, mica-boron nitride sealant was successfully tested under laboratory conditions. This sealant resists prolonged oxidation at 20—1000°C. At present it is being tested under working conditions. Orig. art. has: 4 figures. [ND]

SUB CODE: 11, 13/ SUBM DATE: 09Apr65/ ORIG REF: 005/
ATD PRESS: 5116

Card 2/2

L 47500-00 EWP(R)/EWT(L)/EWT(M)/T/EWP(e)/EWP(w)/EWP(t)/ETI IJP(c) WH/WJ/DJ/JD
ACC NR: AP6032300 (A) SOURCE CODE: UR/0226/66/000/009/0061/0066

AUTHOR: Belitskiy, M. Ye.

5752

ORG: Kiev Institute of Civil Aviation Engineers (Kiyevskiy institut inzhenerov grazhdanskoy aviatsii) B

TITLE: Investigation of antifriction properties of some sintered sealing materials

SOURCE: Poroshkovaya metallurgiya, no. 9, 1966, 61-66

TOPIC TAGS: ~~dry~~ lubricant seal, sealing material, sintered sealing material, FRICTION COEFFICIENT

ABSTRACT: A series of sintered metal-dry lubricant sealing composites, such as nickel with graphite, boron nitride, mica or zinc oxide as dry lubricant and nichrome with mica or boron nitride, were tested for their friction characteristics and wear resistance. It was found that the coefficient of friction increases with an increase in the content of dry lubricant, particularly when it is above 20% (see Fig. 1). The only exception is a composite of nickel with mica, whose coefficient increases only slightly with increasing mica content and at 40% mica is only 0.085. The wear-resistance characteristics of nickel-mica composite also are not significantly affected by increased mica content, and at 28-40% there is a slight decrease

Card 1/2

L 47560-66

ACC NR: AP6032300

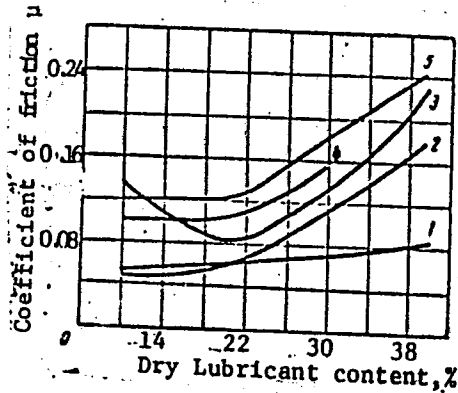


Fig. 1. Dependence of the coefficients of friction of sintered materials on the dry lubricant content

- 1 - Composite nickel-mica; 2 - nickel-zinc oxide; 3 - nickel-graphite;
- 4 - ~~KR20N80~~ nichrome-boron nitride;
- 5 - nickel-boron nitride.

27 27 -1.

in wear. The composites of nickel with mica and nichrome with boron nitride were selected as the best sealing materials for working conditions in gas-turbines. Orig. art. has: 7 figures.

[TD]

SUB CODE: 11/ SUBM DATE: 200ct65/ ORIG REF: 001/ ATD PRESS: 5093

Card 2/2

ACC NR: AP6036895

(A)

SOURCE CODE: UR/0226/66/000/011/0029/0034

AUTHOR: Belitakiy, M. Ye.

ORG: Kiev Institute of Civil Aviation Engineers (Kiyevskiy institut inzhenerov grazhdanskoy aviatsii)

TITLE: Investigation of sintered nickel-boron nitride composites

SOURCE: Poroshkovaya metallurgiya, no. 11, 1966, 29-34

TOPIC TAGS: packing material, nickel base material, boron nitride containing material, material antifriction property, material oxidation resistance, material corrosion resistance

ABSTRACT: In a search for new packing materials for large turbines, a series of sintered nickel-base composites containing from 4 to 16% boron nitride (solid lubricant) have been tested. Preliminary experiments showed that nickel-boron nitride composites with properties close to those required by specifications (porosity 15-18%; hardness 35-40HB; minimum bend strength 7 kg/mm²) can be obtained in composites containing not more than 8% boron nitride compacted under a pressure of 80 km/cm² and sintered at 1150-1250C. In friction tests at a sliding speed of 200 m/sec under a specific load of 2.5 dan/cm², all the composites with up to 8% boron nitride had an almost constant friction coefficient of about 0.12 and a wear of

Card 1/2

ACC NR: AP6036895

0.3 g/cm at 4% boron nitride to 1.13 g/cm at 8% boron nitride. All these values increased sharply with further increase of boron nitride. Oxidation tests in air at 600—1000C for 10 hr showed the compositions containing 4 and 8% boron nitride to have a satisfactory oxidation resistance at temperatures of up to 800C with a total weight gain of 35—40 mg/cm². The weight gain increased sharply to 180—280 mg/cm² at 1000C. The highest oxidation rate at 800C in the material with 8% boron nitride was observed during the first 4 hr of the test, after which it remained almost constant. The material has low oxidation resistance in steam (a 7% weight gain in 500 hr test in steam at 550C, and 1 atm compared with 1.3% in 1500 hr test in air at 600C) and is unsuitable as a packing material in steam turbines. However, materials with up to 8% boron carbide can be recommended for use in the packing assemblies in the medium-temperature section of gas turbines. The materials have a satisfactory corrosion resistance in sulfuric and hydrofluoric acids. A. M. Malysheva participated in the work. Orig. art. has: 8 figures and 1 table. [MS]

SUB CODE: 11,13/SUBM DATE: 18Feb66/ ORIG REF: 002/ ATD PRESS: 5109

Card 2/2

BELITSYN, N.

BELITSYN, N.; OBUKH, I.

"Installing, operating and maintaining ring spinning machines"
V.D.Sobolev. Reviewed by N.Belitsyn, I.Obukh. Tekst.prom. 8
no.2:48 F '48. (MLRA 8:11)
(Spinning machinery) (Sobolev,V.D.)

CA

The structure of cotton yarn. N. M. Belitsin. *Tekstil Prom.* 8, No. 7, 22-4 (1954); *Chem. Zvest.* (Russian Zone Ed.) 1949, 1, 749.—On the basis of photomicrographs, together with x-ray investigations, it is concluded that prevailing theories, that the strength of cotton yarn is due to a strained structure, are not in accord with the findings reported.

M. G. Mourv

BELITSIN, N. M.

23340 Za Povysheniye Skorosti Pryadil'nykh Mashin. [Stat'i]: I. S. A. Paramonov.
Vozmozhnosti Mashinostroyeniya.--II. N. M. Belitsin. Trebovaniya
Tekhnologov k Mashinostroyeniya. Tekstil. Prom-St', 1949, No. 6, c. 12-14.

SO: LETOPIS NO. 31, 1949

BELITSIN, N. M.

27161

Ispol'zovaniye Kreposti Volokna V Pryazhye Tekstkil. Prom-st', 1949, No. 8, S. 8-10

SO: LETOPIS NO. 34

BELITSKY, M.M.

Processing of low grade cotton
Tekst. prom., no. 2, 1952

BELTSIN, H.M.

"Ways of developing the latest method of spinning."
Tekst. prom., 12, no.4, 1952

1. BELTSIN, N. M. and SHVYREV, S. S.

2. USSR (600)

4. Textile Machinery

7. For broad introduction of automatic devices. Tekst.prom. 12 no. 11, 1952.

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

HELITSIN, N.M., professor, doktor tekhnicheskikh nauk.

On the true significance of doubling semi-finished products in the
process of spinning. Tekst.prom. 14 no.7:24-26 J1 '54. (MLRA 7:8)
(Cotton spinning)

BELITSIN, N.M., professor, doktor tekhnicheskikh nauk.

Discussing the drawing device of spinning machines. Tekst.prom.
14 no.11:15-18 N '54. (MIRA 8:1)
(Spinning machinery)

132 075 11 N.M.
BELITSIN, N.M., doktor tekhnicheskikh nauk, redaktor; GUSEVA, Ye.M.
redaktor; MEDVEDEVA, L.A., tekhnicheskiy redaktor.

[Manual on cotton spinning] Spravechnik po khlopkopriadeniu.
Pod red. N.M.Belitsina. Izd.2-oe, perer. i dop. Moskva, Gos.
nauchno-tekhn.izd-vo Ministerstva promyshlennykh tovarov
shirokogo potrebleniia SSSR, 1955. 727 p. (MLRA 9:1)

1. Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut
khlopchatobumashnoy promyshlennosti.
(Cotton spinning)

BELITSIN, N.M., doktor tekhnicheskikh nauk, professor; SMIRNOV, N.V.,
doktor fiziko-matematicheskikh nauk, professor; BATOR, Ferents.

Brief responses to F.A. Afonchikov's article "Errors in instructions
on technical control." Tekst.prom. 16 no.6:53-54 Je '56.

(MLRA 9:8)

1. Rukovoditel' Instituta po kontrolyu kachestva produktcii
tekstil'noy promyshlennosti v Budapeshte (for Bator).

(Textile fibers--Testing)

BELTSIN, N.M., doktor tekhnicheskikh nauk.

Scientific research in the cotton industry in 1957. Tekst.prom.
17 no.1:4-6 Ja '57. (MLRA 10:2)
(Textile research) (Cotton manufacture)

BELITSYN, N.M.,

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Redesign of drawing frames for cotton spinning machines. Tekst.
prom. 17 no.9:23-27 S '57. (MIRA 10:11)
(Cotton spinning) (Spinning machinery)

ZYRIN, N.G.; BELITSYNA, G.D.; OBUKHOV, A.I.

Characteristics and succession of the intake of elements in the
flame of electric arc in spectral soil analysis. Pochvovedenie
no.10:88-92 0 '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Spectrum analysis) (Soils--Analysis)

ZYAIN, N.G.; BELITSINA, G.D.; BRYSOVA, N.P.

Concentration of trace elements of the iron family in some soils
of the U.S.S.R. Vest. Mosk. un. Ser. 6: Biol., pochv. 16 no.5:
59-71 3-0 '61. (MIRA 14:10)

1. Kafedra pochvovedeniya Moskovskogo gosudarstvennogo universiteta.
(TRACE ELEMENTS) (MINERALS IN SOIL)

ZYRIN, N.G.; BELITSYNA, G.D.; OBUKHOV, A.I.

Effect of the current strength of a carbon arc on the evaporation
and the radiation intensity of microelements in a spectrum
analysis of soils. Pochvovedenie no.5:123-127 My '62.

(MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet.
(Soils--Analysis) (Trace elements)

70/25/2

4

Influence of ionizing radiation on bone marrow cells of mice. E. Kirpichnikova, N. I. Shapiro, N. V. Beitsina, and E. V. Ol'shevskaya (M. V. Lenin State Univ., Moscow). *Zhur. Obshch. Biol.* 17, 340-54 (1956). --The process of degeneration of cells of bone marrow in mice can be noted 8 hrs. following a single dose of 500 r. of general irradiation. A large no. of erythrocytes can be seen, the no. reaches a max. on the 4th day. At this time almost complete aplasia of bone marrow is observed. Between the 4th and 8th day regeneration begins, and an almost normal state prevails on the 12th day. Six hrs. following irradiation, the ribonucleic acid (RNA) content in cytoplasm of morphologically unaffected cells decreases. Later, following cell destruction, there is complete absence of RNA. Similar changes are observed with deoxyribonucleic acid (DNA), although some DNA remains even during complete cell destruction. The concentration of SH-- groups in irradiated cells of bone marrow decreases only after alteration in their morphological structure. Cell destruction leads to a sharp decrease in SH-- group content. Different cells, containing similar amounts of SH-- groups, possess different radiosensitivity (hemocytoblasts and myelocytes). In irradiated cells there occurs redistribution of peroxidase content. Morphine, injected prior to irradiation, decreases radiosensitivity of mice, processes of degeneration of bone marrow tissue are slowed down, and processes of regeneration are somewhat accelerated. I. A. Stokol.

NIKIFOROV, G.V., tekhnik-mekhanik, ~~BEIYI, A.V.~~[Bielyi, A.V.], tekhnik-mekhanik,;
SHABEL'NIK, B.P.[Shabel'nyk, B.P.]

How to improve the operation of the SK-2,6 combine. Mekh. sil'.
hosp. 9 no. 8:10-11 Ag '58. (MIRA 11:8)

1. Khar'kivs'ke oblasne upravlinnya sil's'kogo gospodarstva(for Shabel'nik).
(Combines(Agricultural machinery))

BELIY, L. D.

BELIY, L. D. -- "Basic Problem of the Theory and Practice of Geological Engineering in the Construction of Hydropower Plants." Min Higher Education USSR, Moscow State University imeni M. V. Lomonosov, Moscow, 1956. (Dissertation for the Degree of Doctor of Geologicomineral Sciences)

SO: Knizhnaya Letopis' No 43, October 1956, Moscow

BELIYENKO, F.A.

BELYAYEV, A.F.

AUTHOR: Solomonov, N.

SOV/24-58-5-30/31

TITLE: Scientific-Method Conference on the Problem of Breaking-up Rocks by Explosions (Pervoye nauchno-metodicheskoye soveshchaniye po probleme drobleniya gornykh porod vsryvom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 5, pp 143-144 (USSR)

ABSTRACT: On February 24-26, 1958 a conference was held on breaking-up rocks by explosions at the Institute of Mining, Ac.Sc., USSR (Institut Gornogo Dela AN SSSR). 100 people from 32 towns participated and the participants included representatives of Works, Research Institutes of the Ac.Sc. from various parts of the Soviet Union, departmental research institutes and of higher teaching establishments.

Chemical Physics, Ac.Sc. USSR (Institut khimicheskoy fiziki AN SSSR);

"On experimental methods of studying the breaking-up of solid bodies" by L. K. Belokurov, Institute of Chemical Physics, Ac.Sc., USSR;

"On controlling the energy of elastic waves in rocks possessing a high acoustic rigidity and ensuring yield of fragments of a pre-determined size" by A.M. Khinukayev, Leningrad Mining Institute (Leningradskiy gornyy institut);

"On the technique of studying the character of breaking-up of firm rocks by means of charges of increased length" by V. I. Filippov, Institute of Mining, Ac.Sc. Kazakhstan SSR;

"On investigating the fields of the potential and the process of breaking-up of rocks by explosions in the case of instantaneous and briefly delayed charges in the terraces of open-cast mining" by F. A. Belyayev, Dnepropetrovsk Mining Institute.

In the section relating to evaluation of the crushing properties of explosives and the breaking-up of rocks the

S/061/62/000/004/068/087
B138/B110

110171
AUTHORS: Mardanov, M. A., Beliyev, K. G., Molotkova, V. K.

TITLE: Improving diesel fuel by the use of additives

PERIODICAL: Referativnyy.zhurnal. Khimiya, no. 4, 1962, 481, abstract
4M172 (Azerb. neft. kh-vo, no. 6, 1961, 35-37)

TEXT: A technology has been developed for the production of diesel fuel additive on the basis of the high-molecular products of thermal cracking. Its physical and chemical properties have been determined. An addition of 2 % of this additive to Baku diesel fuels will raise the cetane number from 44 to 48, without deterioration of the basic qualities of the fuel. The additive is quite stable; in the course of ten months no drop in cetane number is observed. Tests carried out on a 1-4 (1-Ch) motor by the method developed by INKhP AS Azerbaydzhanskaya SSR have shown that the additive causes no wear of components of the piston group and does not increase carbon deposition. The production process for this additive is not complicated and may be introduced in one of the plants of the "Aznefteknimzavody" administration. [Abstracter's note: Complete translation.]

Card-1/1

(A) L 1215-00 ENI(M)/1 DJ

ACC NR: AP6000960 SOURCE CODE: UR/0286/65/000/022/0042/0043

AUTHORS: ⁴⁴Rapoport, I. B.; ⁴⁴Moshkin, P. A.; ⁴⁴Belizar'yeva, N. I.; ⁴⁴Ivanova, Ye. A.; Zakharova, A. S.

ORG: none ⁴⁴

TITLE: A method for obtaining synthetic lubricating oils. ^{vjj} Class 23, No. 176350 ^{41 B}

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 42-43

TOPIC TAGS: lubricant, ester, carbon, synthetic material

ABSTRACT: This Author Certificate presents a method for obtaining synthetic lubricating oils representing esters of two-base acids. A mixture of two-base acids with the number of carbon atoms exceeding 11 is used as the two-base acids. The carbon atoms are obtained from the C₁₇-C₂₀ fraction of synthetic fatty acids.

SUB CODE: 11/ SUBM DATE: 08Feb64

Card 1/1 ⁴⁴ UDC: 665.582

2

BELIZHENKO, V.D.

Nucleic acids, phosphoproteins and phospholipids of the liver
in experimental atherosclerosis. Vop. med. khim. 11 no.4:
76-80 J1-Ag '65. (MIRA 18:8)

1. Kafedra biokhimii Vitebskogo meditsinskogo instituta.

ODUSHKO, N.P.; BELIZHENKO, V.D.

Content and intensity of metabolism of free nucleotides, nucleic acids, phosphoproteins and phospholipides of the liver in experimental atherosclerosis in rabbits. Ukr. biokhim. zhur. 37 no.3:430-436 '65.

(MIRA 18:7)

1. Kafedra biokhimi Vitebskogo meditsinskogo instituta.

BELIZIN, A. P.

BELIZIN, A. P. -- "Biological Features of 'steklyannitsa temnokrylaya', Injurious to Poplars in the Ukraine near the Black Sea, and Measures to Combat It." Acad Sci Ukrainian SSR. Inst of Zoology. Kiev, 1955. (Dissertation for the Degree of Candidate in Biological Sciences)

SO: Knizhnaya Letopis', No 1, 1956, pp 102-122, 124

BELIZIN, V.

Disinfection of peas. Zashch. rast. ot vred. i bol. 10 no.2:
36 '65. (MIRA 18:4)

1. Glavnyy agronom Kurskoy stantsii zashchity rasteniy.

ABRAMOV, M.I.; BELIZIN, V.I.; DEVITSKIY, S.M.; ZATULA, V.I.; ZOLOTAREV,
V.N.; ZOLOTAREV, I.S.; IL'INA, M.I.; KOLYSHKIHA, N.S.; KUDASOV,
L.P.; MAKHLIN, V.N.; MEDVEDEV, G.S.; MEKHAYEV, I.S.; OLEYNIKOV, M.S.;
PARKHOMENKO, P.N.; TOMASHEVSKIY, V.I.; FEDUNETS, I.Kh.; KHRAMTSOV,
V.K.; ZOLOTAREV, N.V., red.; SEVRYUKOV, P.A., tekhn.red.

[Planning on collective farms; manual] Planirovanie v kolkhozakh;
spravochnik. Kurak, Kurskoe knizhnoe izd-vo, 1960. 437 p.

(MIRA 14:2)

(Collective farms)

BELIZI, B.I.

Gall wasps (Hymenoptera, Cynipidae) of the fauna of the U SR and adjacent countries

Ent. ob. 31 no. 3-4, 1951

BELIZIN, B.I.

Gallflies of the subfamily Aspicerinae (Hymenoptera, Cynipidae)
of the U.S.S.R. Ent.oboz. 32:290-303 '52.

(MLRA 7:1)
(Gallflies)

HELIXIN, V.I.

Gallflies of the subfamily Figitinae (Hymenoptera, Cynipidae)
of the U.S.S.R. and adjoining countries. Trudy Zool. inst. 15:74-88
'54. (MIRA 7:7)

(Gallflies)