"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

Stress-relaxation in ....

alloys tested under σ_o of 15 kg/mm^2 is plotted against the Nb content, curves 1, 2 and 3 relating to the following conditions: 1 - 2 000 h at 650 °C; 2 - 6 000 h at 650 °C; 3 - 1 500 h at 700 °C. The effect of these alloying additions is most pronounced when they are added in quantities sufficient to ensure the formation of the corresponding carbides or intermetallic compounds. There are 4 figures and 1 table.

ASSOCIATION: TsNIIChM

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39629
S/129/62/000/007/004/008
E193/E383

18.1130

AUTHORS: Petropavlovskaya, Z.N., Candidate of Technical Sciences, Borzdyka, A.N., Doctor of Technical Sciences and Merlina, A.V., Engineer

TITLE: Properties of steel Х12ВМБФР (ЭИ 993) (Kh12VMBFR(EI993)) with a high relaxation stability

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 7, 1962, 34 - 37

TEXT: The steel Kh12VMBFR (composition, %: 0.17 C, 0.34 Mn, 0.22 Si, 12.6 Cr, 0.40 Mo, 0.70 W, 0.25 V, 0.5 Nb, 0.10 Ni) has been developed as a relaxation-resistant material for service at temperatures up to 600 °C and the object of the present investigation was to study the effect of several factors on its mechanical properties. The experiments were carried out on samples of laboratory and industrial-scale melts, both with and without boron additions. No difficulties were experienced in fabricating this steel (hot forging at 1 150 - 850 °C, hot rolling at 1 200 - 850 °C). The optimum hardening procedure for both B-bearing and B-free specimens was holding at 1 150 °C for

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Properties of ....

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30 min and oil-quenching. The tempering temperature was chosen from data on the effect of tempering temperature on hardness of the steels studied, after which the effect of various heat treatments, entailing tempering at 650 - 720 °C with or without subsequent ageing for 3 000 hours at 600 °C, on the mechanical properties of these steels at 20 and 565 °C was determined. Stress relaxation was studied at 550 - 600 °C on ring specimens under an initial stress of 30 or 35 kg/mm^2; the suitability of various specimens for high-temperature service was assessed from results of these experiments extrapolated to t = 10 000 hours, which represents the time between major overhauls of boiler and steam-conduit plants. Finally, the stress-to-rupture of the steel at 565 and 600 °C was determined on both smooth and notched test pieces. Several conclusions were reached.

1) Steel Kh12VMBFR has a high relaxation stability and creep resistance at 550 - 580 °C. After 10 000 hours the initial stress of 30 kg decreases to 10 - 12 kg/mm^2 at 565 °C and to 9 - 10 kg/mm^2 at 580 °C, the stress-to-rupture in 10 000 hrs

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Properties of ....

at 565 °C amounting to 26 - 28 kg/mm^2.

2) The best combination of mechanical properties both at room and elevated temperatures is achieved after a heat-treatment which entails oil-quenching from 1 150 °C and 3 hours tempering at 680 - 700 °C; typical values obtained after this treatment are given below:

	Yield pt., kg/mm^2	UTS, kg/mm^2	Elongation, %	Reduction in area, %	Impact strength, kg/mm^2
			At 20 °C		
Annealing 1150 °C Tempering 650 °C	79	95	14.0	52.0	6.0
			At 565 °C		
Annealing 1150 °C Tempering 650 °C	55	59	16.0	65.0	14

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Properties of ....

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E193/E383

3) The mechanical properties of steel Kh12VMBFR are not affected by addition of B. Prolonged (3 000 hours) ageing at 600 °C brings about a slight decrease in the strength of this steel which, however, is still above the specification limit ($\sigma_{0.2} \geqslant$ $\geqslant$ 40 kg/mm^2).

4) Steel Kh12VMBFR can be recommended as material suitable for bolts and pins used to join or secure various parts of steam turbines and boilers made of ferritic and martensitic steels, provided that the thermal-expansion coefficients of these steels are similar. There are 4 figures and 3 tables.

ASSOCIATIONS: TsNIITMASh
TzNIIChM

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

S/078/62/007/003/013/019
B110/B138

AUTHOR: Borzdyka, A. M.

TITLE: Relaxation testing as a method of physicochemical analysis

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 3, 1962, 653 - 657

TEXT: The data on stress relaxation obtained by N. S. Kurnakov and S. F. Zhemchuzhnyy (ZhRFKhO, 45, 1004 (1913)) have been used to extend the temperature range in a study of the physical and mechanical properties of alloys. S. I. Gubkin et al. (Teoriya techeniya metallicheskogo veshchestva (Metal flow theory), ONTI, 1935; Izv. Sektora fiz.-khim. analiza, 13, 257 (1940)) have studied the physical nature of relaxation. Following the bend tests of annular samples by N. A. Oding (Vestnik mashinostroyeniya, no. 5-6, 7-8, 9-10, 1946; Tr. TsNIITMASh, kn. 23, Mashgiz, 1948); the author examined binary and ternary Fe, Cr, and Ni systems. To exclude the influence of the structural factor, the samples were quenched to uniform grain size. The primary stress-time curves (σ-τ) (σ_o = 10, 15, 20 kg/mm^2) are divided into two sections corresponding to two relaxation periods: (1) short period of sharp drop of stress, (2) longer period with temperate

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Relaxation testing as a...

S/078/62/007/003/013/019
B110/B138

drop or complete disappearance, of stress. The criterion is the relaxation rate in its concrete, average, and logarithmic form. At constant temperature, resistance to relaxation as a function of the growing concentration of an alloy component can be expressed by the curve: residual stress σ_τ - percentage of alloying element. In the Fe-Cr-Ni system (20% of Cr), Ni varied from 10 to 78%. The curves exhibited the flat peak which is typical of solid solutions. The intensity of the relaxation process was found to influence these curves. The effect of the alloying element becomes more distinct as relaxation rate rises. With falling relaxation rate the maximum disappears completely in period (2). Measurements must therefore be made at high initial stresses and relaxation rates. The intensity of the relaxation process also influences the position of the maximum on the chemical composition axis. It moves to higher concentrations with increasing rate (e.g., from 40 to 55% of Ni at σ_o = 10 and 20 kg/mm^2). Physicochemical analysis will also have to be applied to determine the effect of internal changes (such as grain growth, allotropic transformations, precipitation of secondary phases, their coalescence, etc.) on the properties of alloys of constant composition, as these changes depend on temperature, time, and stress. There are 5 figures and 7 Soviet

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

S/032/62/028/002/022/037
B139/B104

AUTHORS: Borzdyka, A. M., Uzhik, V. A.

TITLE: Comparable results of long-time relaxation tests of ring specimens produced by different methods

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 2, 1962, 211 - 214

TEXT: Simplified methods of producing ring specimens for relaxation tests at high temperatures are tested: (1) By cutting the rings out of an iron plate 10 mm thick, and shaping them in the usual manner; (2) by boring them out of steel rods 70 mm in diameter, and final shaping by cutting. Specimens cut out of Х3ВМФБ (Kh3VMFB) and ЭИ579Б (EI579B) steels were subjected to relaxation tests for 3000 hrs after previous heat treatment at 565°C at an initial stress of 25, 30, and 35 kg/mm^2. Specimens produced from 9×15 mm band steel by I. A. Oding's method (Trudy TsNIITMASh, Sb. 23, Mashgiz 1949) were used for analogous tests in the same furnace and under the same conditions. The relaxation resistance of specimens cut out of steel plate was 15 - 30% lower than that of specimens produced by the standard method. This is due to macrostructural destruction

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during cutting. Specimens produced from rolled profiles and forged rods (heat resistant nickel-chrome steel) were tested for 5000 hrs at 750°C and an initial stress of 20, 25, 30, and 35 kg/mm^2. Analogous tests were conducted with specimens made of band steel produced from reforged rods of 70 mm diameter. Within the first 1500 hrs, the specimens produced from forged rods relaxed more than those from bent bands. Then, the relaxation rate decreased rapidly and was approximately the same as that observed with bent specimens. The stress existing in forged specimens after 3000 - 5000 hrs was 6 - 8% lower than that of bent specimens. This difference falls within the limits of accuracy of the ring testing method. Thus, relaxation tests of specimens produced from forged or rolled rods may be considered as reliable. The applicability of rod specimens smaller than 60 mm in diameter, still requires experimental examination. There are 3 figures and 2 tables.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I. P. Bardina (Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 18519-63 EWT(d)/EWT(m)/EWP(q)/BDS AFFTC/ASD Pad JD/HW

ACCESSION NR: AP3000679 S/0096/63/000/006/0016/0020

AUTHORS: Borzdy*ka, A. M. (Doctor of technical sciences); Laty*shev, Yu. V. (Engineer)

TITLE: Search for steel and alloys to be used in stationary and portable turbine units

SOURCE: Teploenergetika, no. 6, 1963, 16-20

TOPIC TAGS: heat-resistant steel, alloy, turbine vane, sheet steel

ABSTRACT: Studies and experiments were conducted at Tsentral'ny*y nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Institute of Ferrous Metallurgy) on heat-resistant steels and alloys for turbine parts. Chemical compositions of steels EI-726 (Kh14N18V2BRI), EP-164 (Kh15N24V4T), EI-692 (KhN35VMT), EI-612 (KhN35VT), EI-612K (KhN35VKT) and EI-725 (KhN35VTR) are tabulated. The desired standard for steel and alloys for turbine vanes was a work-life of 100 000 hours at temperatures ranging from 550-800C. Materials for fasteners were tested for operation up to 12 000 hours at temperatures between 560-800C. Sheets were tested at 700C for 50 000-100 000 hours of

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L 18519-63
ACCESSION NR: AP3000679

work-life. The proper heat treatments of recommended steels are described and the mechanical properties of several materials are listed. Orig. art. has: 6 figures and 6 tables.

ASSOCIATION: Institut kachestvenny*kh staley TsNIIChM (Institute of High-Grade Steels at TsNIIChM)

SUBMITTED: 00 DATE ACQ: 21Jun63 ENCL: 00

SUB CODE: ML NO REF SOV: 005 OTHER: 000

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZDYKA, A.M.; GETSOV, L.B.

New developments in instrumentation and methods of testing metals for creep and stress-rupture strength. Zav.lab. 29 no.3:332-334 '63. (MIRA 16:2)
(Creep of metals)
(Testing machines)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

GEMINOV, V.N.; TRUNIN, I.I.; TARKHANOV, G.V.; BORZDYKA, A.M.; AYVAZYAN, S.A.

Discussion concerning the interpretation of the results of testing of the stress-rupture strength of a metal of several smeltings. Zav.lab. 29 no.7:827-837 '63. (MIRA 16:8)

1. Institut metallurgii im. A.A.Baykova (for Geminov). 2. TSentral'nyy nauchno-issledovatel'skiy i proyektnyy institut tekhnologii i mashinostroyeniya (for Trunin, Tarkhanov). 3. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I.P.Bardina (for Borzdyka). 4. Matematicheskiy institut im. V.A.Steklova AN SSSR (for Ayvazyan).
(Metals--Testing)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

ACCESSION NR: AP4012431 S/0129/64/000/002/0031/0034

AUTHOR: Borzdy*ka, A. M.; Estulin, G. V.

TITLE: Stress-rupture strength diagrams for heat-resistant alloys

SOURCE: Metalloved. i term. obrab. metallov, no. 2, 1964, 31-34

TOPIC TAGS: alloy steel, heat resistant alloy, heat resistant alloy steel, refractory alloy, refractory alloy steel, stress rupture strength diagram, ferro chromium-nickel steel, chromium nickel steel

ABSTRACT: This article is a supplement to the journal MiTOM, No. 2, 1964, and contains stress-rupture strength diagrams for heat-resistant, ferro-chromium-nickel and chromium-nickel alloys whose chemical composition is regulated by All-Union State Standard 5632-61. Data for the following alloy steels are contained in the diagrams (enclosures). Orig. art. has: 5 figures.

ASSOCIATION: None

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZDYKA, A.M.

Processing the results of tests for stress relaxation in metals. Zav.lab. 29 no.11:1357-1359 '63. (MIRA 16:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I.P.Bardina.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZDYKA, A.M.

Effect of prolonged exposure to high temperatures on the structure and properties of nickel-chromium alloys. Metalloved. i term. obr. met. no.1:2-5 Ja '64. (MIRA 17:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZDYKA, A.M., doktor tekhn. nauk; TSEYTLIN, V.Z., kand. tekhn. nauk; BERNSHTEYN, M.L., doktor tekhn. nauk, prof., retsenzent

[Heat treatment of heat-resistant steels and alloys] Termicheskaia obrabotka zharoprochnykh stalei i splavov. Moskva, Mashinostroenie, 1964. 246 p. (MIRA 17:9)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZDYKA, A.M.; ESTULIN, G.V.

Diagrams of the rupture strength of heat-resistant alloys.
Metalloved. i term. obr. met. no.2:31-34 F'64 (MIRA 17:7)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 14008-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) ASD(m)-3/ASD(f)-2 JD
ACCESSION NR: AR4045893 S/0137/64/000/007/I065/I065

SOURCE: Ref. zh. Metallurgiya, Abs. 71407

AUTHOR: Borzdyka, A. M.; Petropavlovskaya, Z. P.; Merlina, A. V.

TITLE: The effect of alloying elements on the relaxation stability of high chromium steels

CITED SOURCE: Sb. Legirovaniye staley. Kiyev, Gostekhizdat USSR, 1963, 142-150

TOPIC TAGS: alloying, relaxation, high chromium steel, chromium steel, Cr, V, W, C, Mo, Nb, Nb carbide, ferritic steel, steel

TRANSLATION: The relaxation stability of high chromium steels of the semiferrite type (0.10-0.15% C, 10-12% Cr, 0.3-0.6% Mo) was studied as a function of their degree of alloying and phase state. The samples were quenched in oil and subjected to a high tempering. Relaxation tests were carried out on ring shaped Oding samples at 550-565°. The duration of the tests was 4,000 hours. Steel with 12% Cr and 0.5% Mo, taken as a base, has a low relaxation resistance.

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L 14008-65
ACCESSION NR: AR4045893

Alloying of steel with vanadium (up to 0.6%) somewhat improves its relaxation stability. Further increase in the content of V up to 1% leads to a decrease in relaxation stability; for this reason, the alloying of high chromium steels with vanadium should be limited to 0.3-0.6%. The introduction of W (up to 1%) into steel with 12% Cr, 0.5% Mo, and 0.45% V somewhat increases the relaxation stability; however, further increase in the W content increases the speed of the relaxation process. With an increase in C content, and at the same time of Mo and C, in steel with 12% Cr and 0.4% V, the nature of the effect of W is retained. Increased content of Mo from 0.3 to 0.7% in steel with 12% Cr and 0.4% V, alloyed with W (up to 1%), increases relaxation stability. An optimum relaxation stability is observed in semiferrite steel with 12% Cr, 0.5% Mo, and 0.4% V, with a supplementary alloying with W within the limits 0.3-0.5%; at the same time, the C content should not exceed 0.15-0.20%. An increase in the content of C from 0.15 up to 0.4% in steel with 12% Cr and 0.5% Mo, alloyed with V, or with W and V, leads to a martensite structure of the steel, which lowers relaxation stability. The introduction of Nb up to 0.7% (with 0.15%C) has an efficient effect on relaxation stability, which increases two fold. However, the efficiency of the

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L 14008-65
ACCESSION NR: AR4045893

action of Nb in raising the relaxation stability of high chromium steels depends to a high degree on the content of the other alloying elements. Thus, an increase in the content of Mo up to 1.3% (with 0.7%) in steel with 12% Cr, 0.4% V, and 0.7% Nb, leads to a decrease in relaxation stability. The increase in relaxation stability of steels with the introduction of Nb is due to the formation of stable Nb carbides, whose presence brings about a high stability of the ferrite.

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L 20087-65 EWT(m)/EWA(d)/EWP(t)/T/EWP(b) Pad ASD(m)-3/IJP(c) JD/HW/MLK S/
ACCESSION NR AM4049547 BOOK EXPLOITATION

Borzdyka, A. M. (Doctor of Technical Sciences); TSeytlin, V. Z. (Candidate of Technical Sciences)

Thermal treatment of heat-resistant steels and alloys (Termicheskaya obrabotka zharoprochnykh staley i splavov), Moscow, Izd-vo "Mashinostroyeniye", 1964, 246 p. illus., biblio., tables. 5,500 copies printed.

TOPIC TAGS: pearlitic heat-resistant steel, martensitic chromium steel, austenitic steel, nickel-chromium heat-resistant alloy, heat treatment

PURPOSE AND COVERAGE: This book considers the types of heat treatment of steels and alloys designated for parts working a long time at high temperatures. The results of research on the effect of heat treatment on the heat resistance of pearlitic, ferritic, and austenitic steels, and nickel-chromium alloys are collected. Problems in the theory of heat treatment of heat-resistant alloys, chiefly those not having polymorphous transformations, are examined. Recommendations are made for the selection of regimes of heat treatment of heat-resistant steels and alloys. The book is intended for engineers and technicians who are associated with the production, processing, or use of heat-resistant steels and alloys and can also be useful for advanced students in higher technical educational institutions.

Card 1/2

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L 20087-65
ACCESSION NR AM4049547

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 8859-65 EWT(m)/EWP(q)/EWP(b) Pad ASD(m)-3 WJW/JD/EW/JG

ACCESSION NR AP4010685 S/0139/64/

AUTHOR: Borzdy'ka, A. M.

TITLE: Effect of prolonged holding at high temperatures on structure and properties of a nickel [illegible]

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 1, 1964, 2-5

TOPIC TAGS: KhN65VMTYu alloy, nickel chromium alloy, nickel base alloy, heat resistant alloy, alloy property, chromium containing alloy, alloy heat resistance, [illegible] composition

ABSTRACT: Specimens of the chromium-nickel-base alloy KhN65VMTYu, containing W, Mo, Ti, and Al, were air-cooled from 1180C and aged for [illegible] held at 750 or 800C for periods ranging from 1000 to 20,000 hours. [illegible] and decrease in plasticity during the heat [illegible] stabilized at the usual levels of strength and [illegible] and there was no embrittlement

Card 1/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

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ACCESSION NR: AP4010065

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The simultaneous hardening of the solid solution and formation of moderate quantities of intermetallic phase $Ni_3(Ti, Al)$ in the alloy structure thus results in a nickel-base alloy with enduring refractoriness and high plasticity. This stability of structure and mechanical properties is attributed to a limited content of the hardening phase initially (10%) or after prolonged exposure to operating temperatures (up to 17%), as well as to preservation of the solid solution-intermetallic phase coherence after prolonged exposures to 750 or 800C. This was confirmed by X-ray studies which showed that the intermetallic phase has the structure of a cubic face-centered lattice, the parameters of which are tabulated. Chemical studies, the results of which are tabulated, indicated that after 10,000 hours most of the Ti and Al is in the hardening phase, while most of the Cr, W and Mo remains in the solid solution; also, the secondary phase was found to contain very little carbide, consisting almost entirely of the intermetallic compound. "Yu. V. Laty*shev, A. L. Markova, V. A. Belyayeva, and V. S. Mal'tseva took part in the experimental portion of this work." Orig. art. has: 4 tables and 3 graphs.

ASSOCIATION: TsNIIChM

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 13061-65 EWP(e)/EWT(m)/EWA(d)/EPF(n)-2/EPR/EWP(t)/EWP(b) Ps-4/Pu-4
AFETR/ASD(m)-3 AT/WH/JD/JG/MLK
ACCESSION NR: AT4046840 S/0000/64/000/000/0185/0193

AUTHOR: Estulin, G. V.; Borzdy*ka, A. M.

TITLE: Dispersion hardening of heat resistant austenitic steel

SOURCE: AN SSSR. Nauchny*y sovet po probleme zharoprochny*kh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 185-193.

TOPIC TAGS: steel, steel hardening, austenitic steel hardening, heat resistant steel, heat resistant steel hardening, dispersion hardening

ABSTRACT: The modern theory of heat resistance considers dispersion hardening to be very important for austenitic steel. The variation in hardness of homogeneous austenitic steel during reheating at 500-800C conforms with the classical theory of dispersion hardening. The present paper investigates the dispersion hardening of several austenitic heat-resistant steels used in industry, containing: 0.13-0.45%C, 0.50-2.75% Si, 0.47-1.2% Mn, 13.8-26.7% Cr, 8.8-57.0% Ni, 0-2.4% W, 0-0.5% Mo, and 0-0.7% Ti. Dispersion hardening of these grades of steel is caused by the extrusion of carbide phases. Metallographic analysis and studies on the mechanical properties showed that the formation of ferrites in 18-9 steel under the influence of titanium stabilizes the alloy, preventing disintegration of the austenite during

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 13061-65

ACCESSION NR: AT4046840

prolonged tempering. In the hardened condition, the 18-9T steel contains 10-15% high temperature ferrite. Hardening after aging at 600-700C increases the microhardness from 170 to 187 kg/mm^2 for fine grained steel and from 149 to 187 kg/mm^2 for coarse grained steel. In 14-14 steel, it is possible to change the crystal lattice from gamma to alpha due to the significant content of ferrite-forming elements. The direct cause is carbide formation and lowering of the alloying element content at individual places. Steel 14-14 with 0.13-0.20% C shows low carbide extrusion but this is increased in steel with 0.4-0.5% C. Raising the tempering temperature to 700-800C leads to marked coagulation of the carbide phase. In 20-25 steel (0.15% C), carbides appear during tempering, the degree of dispersion of the carbides depending on the temperature and duration of tempering and the previous hardening temperature. With a higher content of silicon (2.7%) and carbon (0.35%), dispersion hardening is similar to that in 14-14V with 0.4-0.5% C. In 25-20-C steel, tempering of hardened steel leads to extrusion of $(Cr, Fe)_{23}C_6$ chromium carbide particles during the first stages of heating between 600 and 650C, while further heating leads to the formation of a beta phase. In ferronichrome 15-60, the variation in hardness during tempering at 600-700C is similar to that of steel 20-25, and even though there is a great difference in nickel content, the 15-60 alloy may be included in the sluggish aging category. The article concludes, on the basis of structural phase analysis, that the alloying elements are redistributed between the solid solution and the dispersion phase during prolonged heat treatment.

Card 2/3

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L 13061-65
ACCESSION NR: AT4046840 O

It is also noted that the alloying elements are interchanged between the solid solution and the extruded phase when the austenitic steel is tempered at a temperature 50-100C higher than the temperature of aging. Orig. art. has: 5 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 16Jun64 ENCL: 00 SUB CODE: MM

NO REF SOV: 013 OTHER: 007

Card 3/3

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 62812-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) Pad IJP(c) 33
MJW/JD/HW/JG/EM
ACCESSION NR: AP5018057 UR/0129/65/000/007/0039/0042 30
669.15-194:669.26'24:539.371 18

AUTHOR: Borzdyka, A. M.

TITLE: Prolonged relaxation stability of a nickel-chromium heat-resistant alloy

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 7, 1965, 39-42

TOPIC TAGS: heat resistant alloy, alloy relaxation stability, relaxation damping, nickel alloy, chromium alloy / KhN65VMTYu alloy

ABSTRACT: The usefulness of the heat-resistant Ni-Cr alloy KhN65VMTYu (EI893) for prolonged operations (up to 20,000 hrs.) under a relaxation load has been investigated. The tests were carried out at 750C over a 20,000 hr. period, the stress relaxation being determined by the method of annular samples (see I. A. Oding, Trudy TsNIITMASh, Kn. 23, M., Mashgiz, 1949). The initial stresses were 20, 25, 30, and 35 kg/mm^2, which were 33, 40, 50, and 60% of the average value of the yield point of the alloy at the given temperature. The samples were hardened in air at 1180C and tempered at 800C for 12 hrs. All the samples showed a continuous damping of the relaxation process throughout the 20,000 hrs.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 62812-65

ACCESSION NR: AP5018057

3

of the test. This damping is apparently connected with a gradual stabilization of the structure of the alloy under consideration. "V. A. Uzhik and L. N. Astakhova participated in the relaxation measurements." Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: TsNIIChERMET

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 004 OTHER: 000

jlk

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 13272-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(h)/EWA(c)

ACC NR: AP6002908 JD/HM SOURCE CODE: UR/0286/65/000/024/0073/0073

INVENTOR: Medovar, B. I.; Borzdyka, A. M.; Latyshov, Yu. V.; Pinchuk, N. I.; Chekotilo, L. V.; Topilin, V. V.

ORG: none

TITLE: Weldable, heat-resistant steel. Class 40, No. 177079

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 73

TOPIC TAGS: steel, heat resistant steel, chromium containing steel, nickel containing steel, tungsten containing steel, titanium containing steel, manganese containing steel

ABSTRACT: This Author Certificate introduces a weldable, heat-resistant steel with increased resistance to local failure of welded parts. The steel contains 0.08% max carbon, 0.5% max silicon, 0.5—1.0% manganese, 14.5—16.5% chromium, 23—25% nickel, 4.0—5.0% tungsten, 1.5—2.0% titanium, 0.4—0.7% boron, and 0.02% max sulfur. [AZ]

SUB CODE: 11/ SUBM DATE: 25Apr64/ ATD PRESS: 4185

Card 1/1 UDC: 669.14.018.44

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 59267-65 EWP(z)/EWA(c)/EWT(m)/EWP(b)/T/EWA(d)/EWP(w)/EWP(t) MJW/JD/HW
ACCESSION NR: AT5016062 UR/2776/65/000/039/0126/0138

AUTHOR: Borzdyka, A. M.; Estulin, G. V. (Deceased)

TITLE: Dispersion hardening and hot brittleness of austenitic steels

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 39, 1965. Spetsial'nyye stali i splavy (Special steels and alloys), 126-138

TOPIC TAGS: stainless steel, dispersion strengthening, impact strength, metallographic examination, heat resistant steel, heat treatment

ABSTRACT: Eight typical austenitic stainless steels were chosen and classified into five types. For each type, the dispersion hardening character was investigated, based on hardness, impact strength, metallography and electrical resistance. In some cases, chemical and x-ray analysis were used to determine the hardening phase. Since resistivity showed little change (2-5%) it was not included in the data. The steels, generally, were given the following heat treatments: annealing at 1000-1100°C and 1150-1250°C, with subsequent tempering at 500-800°C for up to 1000 hrs. X-ray analysis of steels of the 18-9 type (18% Cr, 9% Ni) showed that the phase re-

Card 1/2

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L 59267-65

ACCESSION NR: AT5016062

3

sponsible for hardening was the cubic carbide $(Fe, Cr)_{23}C_6$ with a lattice parameter $a = 10.58$ Å. Hardness vs. aging time was plotted for annealed and tempered 1Kh18N9T and 1Kh18N9. Maxima were present for higher tempering temperatures, while usually the curves showed a gentle rise up to a constant value at 100 hrs which thereafter remained constant up to 1000 hrs. Impact strength when plotted as a function of aging time (to 1000 hrs) for both alloys of 18-9 type showed a steady drop for all aging temperatures, which leveled off after 100 hrs. This same analysis was carried out on types 14-14, 20-25, 25-20, and on ferrochrome 15-60. The results paralleled those for steels of the 18-9 type, as mentioned above, except for σ-phase formation in types 20-25 and 25-20. A table is given listing all the tested steels, along with optimal dispersion hardening heat treatments, based on impact resistance as a criterion. Orig. art. has: 16 figures, 4 tables.

14

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 012 OTHER: 007

KC

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 15698-66 EWT(m)/T/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/HW/JG

ACC NR: AP6003313 (N) SOURCE CODE: UR/0129/66/000/001/0060/0063

AUTHOR: Borzdyka, A. M.; Astakhova, L. M.; Salakhova, L. I.

38
B

ORG: TsNIIChERMET

TITLE: Effect of heat treatment on the relaxation resistance of KhN&&TYu* Ni-Cr alloy

SOURCE: Metallovedeniye i termicheskaya brabotka metallov, no. 1, 1966, 60-63

TOPIC TAGS: stress relaxation, nickel alloy, chromium alloy, metal heat treatment / KhN77TYu Ni-Cr alloy

ABSTRACT: Although the structure and properties of this alloy as a function of heat treatment have been fairly thoroughly investigated, little is known about the effect of heat treatment on the relaxation properties of this alloy; yet knowledge of this factor is a prerequisite for using KhN77TYu alloy in, e.g. fastening fixtures operating at high temperatures. Hence the authors investigated the effect of hardening temperature on 9x15 mm specimens of the alloy (0.05% C, 20% Cr, 2.5% Ti, 0.75% Al, with Ni as the rest). The test conditions were: hardening at 1000, 1050 and 1080°C for 8 hr, cooling in air with subsequent stabilization tempering at 600-900°C. Relaxation tests were performed by the Oding method at 700°C and in the presence of initial stresses of 10, 15, 20 and 25 kg/mm^2. Graphic analysis of the findings showed that the relation of hardening temperature to final relaxation stress σ_T (taken as the

Card 1/3 *Probably KhN77TYU designation UDC: 669.14.018.45

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 15698-66

ACC NR: AP6003313

0

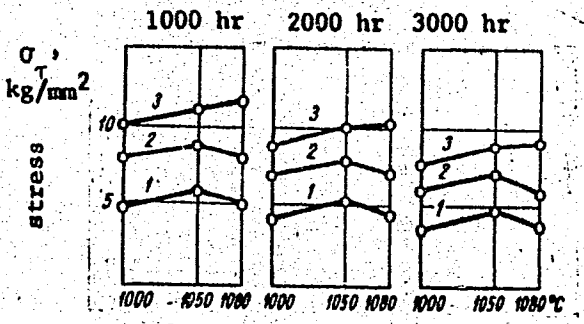

Fig. 1. Final relaxation stress σ_T in the presence of various initial stresses as a function of hardening temperature
1 - σ_0 = 10 kg/mm^2; 2 - σ_0 = 15 kg/mm^2; 3 - σ_0 = 20 kg/mm^2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 15693-66
ACC NR: AP6003313

basic indicator of relaxation resistance) is expressed by curves with a slanting peak (Fig. 1): thus, the maximum σ_T over periods of 1000, 2000 and 3000 hr for σ_0 = 10 and 15 kg/mm^2 is observed after quenching from 1050°C and for σ_0 = 20 kg/mm^2, probably after quenching from 1080°C. The concomitant investigation of the effect of the time and temperature of tempering on relaxation resistance in the presence of stresses of 25, 30 and 35 kg/mm^2 demonstrated that this effect is indeed beneficial, as compared with non-tempered specimens, and is the greater the higher are the initial stresses. The maximum relaxation resistance of this alloy is hence assured by double heat treatment consisting in quenching from 1050-1080°C with cooling in air, followed by tempering at 750°C for 16 hr. Orig. art. has: 4 figures, 1 table.

SUB CODE: 11, 13,20/ SUBMDATE: none/ ORIG REF: 003/ OTH REF: 000

Card 3/3

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 30990-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b)/EWA(h) IJP(c) JD/HW/JG

ACC NR: AP6002911 SOURCE CODE: UR/0286/65/000/024/0073/0074

INVENTOR: Latyshov, Yu. V.; Borzdyka, A. M.

ORG: none

TITLE: Heat-resistant austenitic steel. Class 40, No. 177082

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 73-74

TOPIC TAGS: steel, heat resistant steel, austenitic steel, chromium containing steel, nickel containing steel, tungsten containing steel, titanium containing steel, manganese containing steel

ABSTRACT: This Author Certificate introduces a heat-resistant austenitic steel. For better heat resistance and higher stability and ductility, the steel contains 0.6% max carbon, 0.1% max silicon, 0.5—2.0% manganese, 12—16% chromium, 18—21% nickel, 2—4% tungsten, 1.0—2.0% titanium, 0.025—0.1% cerium, 0.005—0.15% boron, 0.02% max sulfur, and 0.035% max phosphorus. [AZ]

SUB CODE: 11/ SUBM DATE: 25Feb64/ ATD PRESS: 4191

Card 1/1 UDC: 669.15—194.56

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

ACC NR: AP6036447 SOURCE CODE: UR/0370/66/000/006/0137/0141

AUTHORS: Sveshnikova, G. A. (Moscow); Borzdyka, A. M. (Moscow)

ORG: none

TITLE: Solubility of niobium in nickel-chromium solid solution

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1966, 137-141

TOPIC TAGS: niobium, nickel, chromium, alloy phase diagram, metal phase system

ABSTRACT: The solubility of niobium in nickel-chromium solid solutions containing 20 wt % Cr was determined. The investigation supplements the results of V. N. Svechnikov, V. M. Pan, and V. G. Korobeynikov (Diagramma sostoyaniya sistemy niobiy-nickel'. Sb. Voprosy fiziki metallov i metallovedeniya. Izd-vo AN SSSR 1964, No. 19). The specimens were prepared in a 30-kg induction furnace at 1420—1470C in an atmosphere of air. The microstructure, lattice parameter, and hardness of the specimens were determined as functions of the Nb composition, and the experimental results are presented in graphs and tables (see Fig. 1). It was found that the presence of 20 wt % Cr in the alloy decreases the solubility of niobium in the latter by 6—7%. This work was carried out at the initiative of the late Professor G. V. Estulin.

UDC: 669.017.11

Card 1/2

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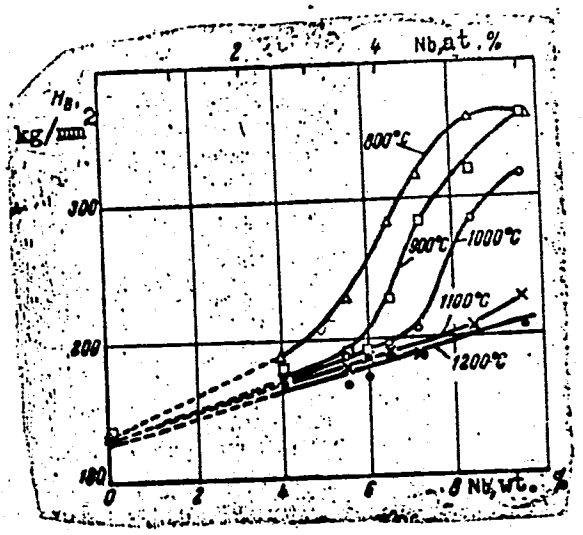
"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

ACC NR: AP6036447

Fig. 1. Hardness of alloys Ni + 20% Cr after different heat treatments (cooled in 10% aqueous NaCl solution) as a function of Nb content



Orig. art. has: 2 tables and 4 graphs.

SUB CODE: 11/ SUBM DATE: 07Sep65/ ORIG REF: 006/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

ACC NR: AP7000131 SOURCE CODE: UR/0115/66/000/011/0038/0040

AUTHOR: Novikov, I. I.; Borzyak, A. M.

ORG: none

TITLE: The experimental investigation of forward rotational flow of an incompressible viscous liquid in a cylindrical pipe

SOURCE: Izmeritel'naya tekhnika, no. 11, 1966, 38-40

TOPIC TAGS: incompressible fluid, fluid dynamics, turbulent flow, turbulent heat transfer, rotational flow

ABSTRACT: Experiments were conducted to determine the critical flow velocity, the coefficient of hydraulic resistance, and the coefficient of heat transfer from the walls of a pipe to a fluid when it has a rotating forward motion in a cylindrical pipe. The flow system was made of stainless steel while the working region with a diameter of 30 and 12 mm, and a length of 400 mm was made of plexiglass. The working liquid was distilled water. A thin film of water moved in the working section such that centrifugal-capillary waves could be observed on the surface of this film. The pressure inside the rotating film was measured by the height of the operating liquid column. The film thickness was measured with a micrometer probe. A copper tube was used to measure the coefficient of heat transfer. Low voltage ac current was passed through the

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Card 1/2

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ACC NR: AP7000131

the tube. The temperature was determined by 30 thermocouples attached to the tube. The results of the experiments are given and are in good agreement with theoretical results obtained earlier by the author. This agreement indicates that the following equations can be recommended for computing hydraulic resistance and heat transfer during the turbulent rotating forward motion of a liquid along a pipe:

$$\zeta = \frac{0{,}18}{Re^{0{,}25}\left(1-\frac{2r_0}{D}\right)^{1{,}25}}, \qquad Nu = \frac{0{,}12 \cdot Re^{0{,}75}}{\left(1-\frac{2r_0}{D}\right)^{0{,}25}}.$$

The first equation is valid for any liquid. The second equation is only valid for water; when other fluids are used the numerical coefficient changes its value. Both equations apply to the case when

$$Re = \frac{w_0 D}{\nu} < 8 \cdot 10^4.$$

Orig. art. has: 5 figures, 4 formulas.

SUB CODE: 20,13/ SUBM DATE: 13Jul66/ ORIG REF: 002

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH ORDERS

Borzdyka, M.

BC

B 1
5

New techniques of hot mechanical testing [of steel]. M. Boradyka (Zavod. Lab., 1949, 15, 73—78; Metal Abstr., 1950, 18, 297).—A method is described for determining the ultimate strength and creep characteristics at high temp. for extension rates of 100, 10, 1, and 0·1% per hr. The ultimate strength and reduction in area are smaller the lower is the extension rate. For mechanical testing at ~1000° the sample is heated by passing d.c. (500—750 amp. per sq. cm.; 1—5 v.) through it without affecting cryst. structure or composition. A method of measuring creep in bending under constant load at high temp. on cantilever-loaded thin strips placed in a furnace is outlined; deformations are measured optically.

R. B. Clarke.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS

MATERIALS INDEX

COMMON VARIABLES INDEX

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZDYKO, V.I.

ST Tauri. Biul. Inst. astrofiz. AN Tadzh. SSR no.32:21-24 '62.
(MIRA 17:11)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZDYNSKI, Jan (Wroclaw, ul. L. Rydygiera 25 m. 4.)

Studies on the strength of wire loops used in oblique and spinal bital fractures. Chir. narz. ruchu 24 no.1:35-44 1959.

1. Z Zakladu Chirurgii Ogolnej Studium Doskonalenia Lekarzy A. M. w Warszawie. Oddzial we wroclawiu na bazie Szpitala Wojewodzkiego Kierownik: dr J. Borzdynski.
(TIBIA, fractures,
wiring, strength of loops (Pol))

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZE, K.

"Report on the investigation of chernozen soils in the area of the Brezova pod Bradlom Mountain range."

GEOLOGICKE PRACE; ZPRAY, (Slovenska akademia vied. Geologicky ustav Dionyza Stura) Bratislave, Czechoslovakia, No. 15, 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

L 33360-66 EWP(e)/EWP(t)/ETI/EWP(k) JD/WW/WH

ACC NR AP6024599 SOURCE CODE: RU/0017/65/000/009/0474/0476

32
B

AUTHOR: Stanomir, I. (Engineer); Borzea, C. (Engineer)

ORG: Motor Repair Shops, Brasov (Atelierele de Reparatii de Automotoare)

TITLE: Casting of segments 200-700 millimeters in diameter

SOURCE: Metalurgia, no. 9, 1965, 474-476

TOPIC TAGS: metal casting, metallurgy

ABSTRACT: The authors describe the methods being used to cast large segments, pointing out the difficulties associated with the drum casting method in the case of large sizes and describing how these can be overcome through use of the ring-drum method. This results in segments of good quality having a fine graphite lamellar structure. Orig. art. has: 4 figures. [Based on authors' Eng. abst.] [JPRS: 33,732]

SUB CODE: 13 / SUBM DATE: none

Card 1/1 BLG

UDC: 621.74.03-762.63

0915 2232

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

GEBALA, Antoni; BORZECKA, Irena; GECA, Czeslawa

Daily excretion of 17-ketosteroids and 17-hydroxycorticosteroids in girls and boys under 14. Pol. tyg. lek. 20 no.15:517-519 12 Ap '65.

1. Z II Kliniki Chorob Dzieciecych AM w Lublinie (Kierownik: doc. dr. Antoni Gebala).

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

KUNICKI, Miroslaw; BORZECKA, Z.

Fundamentals and organization of collaboration between information field agencies. Akt probl inf dok 7 no.2:44-72 Mr-Ap '62.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

POLAND

BORZECKI, Kazimierz, Mgr, [affiliation not given]

"1863-1963. The January Revolution, and the Participation of Pharmacists in It."

Warsaw, Farmacja Polska, Vol 19, No 1-2, 25 Jan 63, pp 1-17

Abstract: Brief history of the January 1863 Revolution, and list and biographic data of pharmacists who fought in it. Twenty-four Polish references.

1/1

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

POLAND / General Biology. Genetics. Animal Genetics. B

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14457

Author : Marchlewski, T.; Borzedowska, B.
Inst : Polish Academy of Sciences
Title : The Probable Phenocopic Influences of Egg Albumen Transfusion of the Developing Chicken Eggs

Orig Pub : Bull. Acad. polon. sci., 1957, Cl. 2, 5, No 10, 349-353

Abstract : The authors present a critical evaluation of Soviet and Bulgarian investigators on the problem of transfusion of egg albumen and parabiosis in fowl, maintaining that the conclusions based on their studies are doubtful, since they were carried out with an insufficient number of individuals, mostly

Card 1/3

64

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lack of controls and very often were carried out with genetically unverified material. Control tests carried out in other countries, also did not verify the results of this work. However, some positions of these studies deserve attention. Therefore, the progeny which was obtained in analogous experiments by Borzedowskaya, was examined in detail. The latter transfused the egg albumen of Polish greenfeet breed hens into the eggs of leghorns and produced a parabiosis between the birds of these breeds. As a result of these experiments, a part of the experimental birds developed a change in color reminiscent of the phenomenon of a recessive index of a "pale yellow breast" which is often observed in white

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14457

leghorns. The study of the F_1 progeny (185 individuals, data of Borzedowskaya) and F_2 progeny (85 individuals, data of both authors) of these colored birds led to the conclusion that the frequency rate of colored individuals is reduced from one generation to the next, and that subsequently the problem lies not in the isolation of the accidentally present recessive index, but in the appearance of phenocopies under the influence of the transfusion of albumen, as well as of parabiosis. -- S. M. Gershenzon

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

MARCHLEWSKI, T.; BORZEDOWSKA, Bozena

A possible case of genetic transduction in the domestic fowl. Folia biol 7 no.3:259-266 '59. (EEAI 9:11)

1. From the Chair of Evolution and the Department of Animal Genetics of the Jagellonian University, Krakow.
(POULTRY) (GENETICS)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZEDOWSKA, Bozena

Transition into a hereditary form of a thermal phenocopy in Drosophila melanogaster. Folia biol 11 no.2:231-252 '63.

1. Department of Evolution and Animal Genetics, Jagellonian University, Krakow.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZEMSKA, WANDA

SURNAME, Given Names

(5)

Country: Poland

Academic Degrees:

Affiliation:

Source: Warsaw, Medycyna Weterynarina, Vol XVII, No 8, August 1961, pp 463-466.

Data: "Activity of the Lyophilized Strain F_{107} of the Newcastle Disease Virus at Various Temperatures."

Authors:
BORZEMSKA, Wanda,
MAREK, Kazimierz, Docent dr., Director of the Department of Poultry Diseases (Zaklad Chorob Drobiu), Veterinary Research Institute (Instytut Weterynarii), Pulawy
TWARDOWSKI, Krzysztof, Magister, Director of the Branch Testing Laboratory (Branzowa Laboratorium Badawcze) of the Poultry and Egg Industry (Przemysl Jajowy-Drobiarski), Poznan.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZEMSKA, WANDA

SURNAME, Given Names

Country: Poland

Academic Degrees:

Affiliation: Department of Poultry Diseases, Veterinary Institute (Zaklad Chorob Drobiu, Instytut Weterynarii), Pulawy; Director (Kierownik): Doc Dr Kazimierz Marek

Source: Lublin, Medycyna Weterynaryjna, Vol XVII, No 10, October 1961, pp 577-579

Data: "Studies of the Immunizing Value of Vaccine F Against Newcastle Disease Virus Administered to the Respiratory System."

Authors:
MAREK, Kazimierz, Doc Dr
RASZEWSKA, Helena [Academic Degrees not given]
BORZEMSKA, Wanda [Academic Degrees not given]

GPO 981643

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZEMSKA, W.

(27)

Warsaw, Medycyna Weterynaryjna, Vol 18, No 4, April 1962.

1. "African Hog Cholera (Montgomery's Disease)," Tadeusz JASTRZEBSKI; pp 193-197.

2. "Field Diagnosis of Str. agalactiae Using the Hotis' Method," J. WISNIOWSKI, St. NADBYSKI, and A. GRAJEWSKA of the Research Office of Animal Hygiene (Zaklad Higieny Zwierzat) of the Institute for Veterinary Science (Instytut Weterynarji) at Bydgoszcz (Director: Docent Dr. Jerzy WISNIOWSKI), of the Zootechnical Institute (Instytut Zootechniki) at Krakow, and of the WZHW (Wojewodzki Zaklad Higieny Weterynaryjnej; Wojewodztwo Veterinary Hygiene Research Office) at Bydgoszcz; pp 197-201 (English summary).

3. "Cases of Aujeszky's Disease in Silver Foxes, White Foxes, and Minks," Jadwiga STEFFEN and Jerzy SZAFLARSKI of the WZHW at Katowice (Director: Prof. Dr. Jerzy SZAFLARSKI); pp 201-204.

4. "Intranasal Immunization of Chicks Against Newcastle Disease Using the Strains NDV, LaSota, and F," Wanda BORZEMSKA of the Research Office for Poultry Diseases (Zaklad Chorob Drobiu) of the SGGW (Szkola Glowna Gospodarstwa Wiejskiego, Main School of Rural Economy) at Warsaw (Director: Docent Dr. Kazimiera MAREK); pp 205-207 (English summary).

5. "Notes on the Serodiagnosis of Brucellosis of Sheep," Leopold UGORSKI of the WZHW at Wroclaw (Director: Dr. L. UGORSKI); pp 207-209 (English summary).

6. "Haemolytic Reaction and Blood Picture in Cattle Infected with Tuberculosis," Antoni DZIABA and Zofia MANKIEWICZOWA of the Chair of Epizootiology (Katedra Epizootiologii) of the Faculty of Veterinary Science (Wydzial Weterynarji) of the SGGW at Warsaw (Director: Prof. Dr. A. STRYSZAK) and of Small-animal Disease Research Office (Zaklad Chorob Malych Zwierzat) of the Faculty of Veterinary Science of SGGW at Warsaw (Director: Docent Dr. W. STANKIEWICZ); pp 210-211.

7. "Rupture of Spleen in a Bull Suffering from Tuberculosis," Zenon WACHNIK and Jan SARAPATA of the Chair of Epizootiology (Katedra Epizootiologii) of the Faculty of Veterinary Science of the Higher School of Agriculture (WSR, Wyzsza Szkola Rolnicza) at Wroclaw (Director: Prof. Dr. Tadeusz SOBISCH); p 211-212.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZEMSKI, E.

Methods of preparing classification tables for pine stands.

P. 157, (Roczniki Nauk Lesnych. Vol. 18, Warszawa, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, A-A.

[redacted], A.V.; BORZENKO, A.A.; ALEYNIKOVA, A.F.

Investigation of milk and milk products for Brucella. Zhur. mikrobiol. epid. i immun. no.1:103-107 Ja '55. (MLRA 8:2)

1. Is Uzbekskoy respublikanskoy protivobrutsellioznoy stantsii (glavnyy vrach M.I.Bashevaya, konsul'tant prof. P.F.Samsonov)

(BRUCELLA,
in milk & milk prod., determ.)
(MILK, bacteriology,
Brucella, determ.)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, A.A.

A case of metastasis of a chorionepithelioma to the kidney. Sov. med. 21 no.2:110-111 F '57. (MLRA 10:6)

1. Iz Tashkentskoy gorodskoy bol'nitsy No.6 (nauchnyy rukovoditel' prof. V.K.Yasevich)

(CHORIOCARCINOMA, case reports
metastases to kidney)
(KIDNEYS, neoplasms
choriocarcinoma, metastatis)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

KHODIYEV, E.M., kand.med.nauk; BORZEN...O, A.A., ordinator

Case of restoration of the vitality of the hand by means of a vascular suture. Med. zhur. Uzb. no.1:72-73 Ja '61. (MIRA 14:6)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. V.K.Yasevich) sanitarno-gigiyenicheskogo i pediatricheskogo fakul'tetov Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(HAND--WOUNDS AND INJURIES)
(BLOOD VESSELS--SURGERY)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

YASEVICH, V.K., prof.; KHODIYEV, E.M., assistent; VAVILIN, M.K.; AKALAYEV, N.Kh.; BORZENKO, A.A., ordinator; ALIMOV, R.A.; RABINOVICH, S.A.; TSENER, Kh.Kh.; KOKOSOVA, T.A.

Angiocardiography in the diagnosis of congenital vitia cordis. Med. zhur. Uzb. no.10:10-16 '61. (MIRA 14:10)

1. Iz fakul'tetskoy khirurgicheskoy kliniki sanitarnogo i pediatricheskogo fakul'tetov (zav. - prof. V.K.Yasevich) Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(ANGIOCARDIOGRAPHY)
(HEART--ABNORMITIES AND DEFORMITIES)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

GORELIK, Abram L'vovich.; BORZENKO, I.M., red.; VORONIN, K.P., tekhn. red.

[Industrial electronics] Promyshlennaia elektronika. Izd. 2., ispr. i dop. Moskva, Gos. energ. izd-vo, 1958. 462 p. (MIRA 11:10)
(Electronics--Industrial applications)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, I.M.

Vsesoyuznoye soveshchaniye po avtomatizatsii proizvodstvennykh protsessov v mashinostroyenii i avtomatizirovannym elektroprivodu v promyshlennosti. 3d, Moscow, 1959

Elektroprivod i avtomatizatsiya promyshlennykh ustanovok; trudy soveshchaniya (Electric Drive and Automation in Industrial Systems; Transactions of the Conference) Moscow, Gosenergoizdat, 1960. 470 p. 11,000 copies printed.

General Ed.: I.I. Petrov, A.A. Stretin, and M.G. Chilikin; Ed.: I.I. Sud, and E.P. Milyayev; Tech. Ed.: E.P. Voronin, and G.Ye. Larionov.

PURPOSE: The collection of reports is intended for the scientific and technical personnel of scientific research institutes, plants and schools of higher education.

CONTENTS: The book is a collection of reports submitted by scientific workers at plants, scientific institutes and schools of higher education at the third Inter All-Union Conference on the Automation of Industrial Processes in Machine Building and Automated Electric Drives in Industry held in Moscow on May 12-16, 1959. The Conference was called by the Academy of Sciences USSR, the Gosplan SSSR (State Planning Commission USSR), the GKTI SSSR, the Gosudarstvennyy komitet po avtomatizatsii i mashinostroyeniyu (State Committee on Automation and Machine Building) and the National'nyy komitet SSSR po avtomaticheskomu upravleniyu (USSR National Committee on Automatic Control) and prepared by the Nauchno-issledovatel'skiy institut po avtomatizirovannym elektroprivodu (Scientific Research Institute for Automated Electric Drives); the MEI (Moscow Institute of Energetics), the VTIEM, the AP (Institute of Automation and Telemechanics) and the Academy of Sciences USSR, and the Kombinat po tekhnologii mashinostroyeniya, Institute mashinovedeniya AN SSSR (Combine on the Technology of Machine Building of the Institute of Science of Machines of the Academy of Sciences USSR). It was the purpose of the Editorial Board to arrange the reports in a way which would ensure a relatively systematic presentation of theoretical and practical problems relating to electric drives and automatic controls of industrial mechanisms used in various branches of industry. Basic problems of automated electric drive and their solution are outlined. The book also contains articles on electric machinery and means of automation. Considerable attention is paid to contact automatic control systems, including systems with semiconductor devices and magnetic amplifiers, and to computers intended both for the analysis and the synthesis of linear and nonlinear automatic regulation and control systems. Reports already published in journals or official publications have been considerably abbreviated; those which have appeared in volume V of XII AP transactions or in the journal "Elektrichestvo" are marked with an asterisk. No personalities are mentioned. References accompany some of the papers.

PART. GENERAL PROBLEMS CONCERNING THE THEORY AND PRACTICE OF ELECTRIC DRIVE AND AUTOMATION OF CONTROL

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

S/196/61/000/012/024/029
E194/E155

AUTHORS: Shevchenko, G.I., Borzenko, I.M., and Popov, V.V.

TITLE: A valve-type (ionic) frequency-changer for supplying induction motors

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.12, 1961, 24, abstract 12K 130. (Tr. Mosk. energ. in-ta, no.34, 1961, 378-398)

TEXT: At the request of the Kombinat iskusstvennogo volokna (Artificial Fibres Combine) the Kafedra promyshlennoy elektroniki Moskovskogo energeticheskogo instituta (Department of Industrial Electronics of the Moscow Power Engineering Institute) has developed an ionic frequency-changer for 50/150 c/s, 25 kVA, for supplying the electrically-driven spindles of spinning machines in viscose manufacture. The frequency-changer is based on thyratrons type TP-6/15 (TR-6/15). The rectifier and invertor are connected in a three-phase bridge circuit. The rectifier is controlled by an electronic-impulse system. The invertor control system is based on transistors. The output

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S/196/61/000/012/024/029
E194/E155

A valve-type (ionic) frequency- ...

voltage of the invertor is automatically stabilised by applying a signal through a d.c. amplifier to the rectifier grid. To protect against failure of inversion, which can occur in an independent invertor with capacitor switching, a current transformer with rectifier circuit is used, and when the current exceeds a certain value the rectifier grids block. Ballast resistors connected in circuit as the load increases prevent excessive voltage rise of the invertor at no-load. The frequency-changer characteristics are given, and with a load of 72 spindles are as follows: input - 420 V, 35 A, 16.1 kW; output - 145 c/s, 110 V, 78 A, 13 kW. The reactive power of the capacitors is 13 kW, the efficiency 0.87. In service tests the frequency-changer operated normally.
13 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

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L 27239-65 EWT(d)/EWP(n)-2/EWP(1) Po-4/Pq-4/Pg-4/Pu-4/Pk-4/Pl-4 ZJP(c)
ACCESSION NR: AT5003914 WW/GS/BC S/0000/64/000/000/0179/0187

55
39
B+1

AUTHOR: Borzenko, I. M.; Sapozhnikov, L. A.

TITLE: Solution of optimal problems by the maximum principle, using analog computers and logic circuits

SOURCE: Vsesoyuznaya konferentsiya - seminar po teorii i metodam matematicheskogo modelirovaniya. 3d, 1962. Vychislitel'naya tekhnika v upravlenii (Computer technology in control engineering); sbornik trudov konferentsii. Moscow, Izd-vo Nauka, 1964, 179-187

TOPIC TAGS: analog computer, optimal control system, logic circuit, extremal control

ABSTRACT: The problems considered in this article involve the compilation of a time program for optimal control, in which the motion of the dynamic system, such as the technological process, acquires certain extremal properties (maximum economy, maximum speed). The optimal control signals must be generated periodically to prevent accumulation of errors. The initial and final states of the process are fixed. Tests made previously in connection with the system developed by TsNIIKA

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for optimal control of the supply of material to an open hearth furnace have shown that digital computers cannot be used in such problems. The problem consists essentially of selecting continuously control signals corresponding to the maximum value of the Hamiltonian of the system, and to search for such initial conditions for the conjugate system that make the solution of the fundamental system satisfy the boundary conditions. A similar problem was solved by D. P. Eckman and J. Lefkowitz (Control Engineering, September 1957, v. 4, No. 9, pp 197-204), but the control functions enter in the main equations in nonlinear fashion, and the control signals can assume arbitrary values. Several variants for solving this problem theoretically are proposed and a block diagram for an analog computer designed for the purpose is presented. The results show that the use of logic elements in the analog computer extends greatly the possibility of such computers and makes it possible to solve many practical problems in which the maximum principle is used. "The authors thank engineer L. M. Zaydenberg who actively participated in the discussion of the results of the work." Orig. art. has: 5 figures and 7 formulas.

ASSOCIATION: None

SUBMITTED: 17Aug64 ENCL: 00 SUB CODE: DP, IE

NR REF SOV: 004 OTHER: 001

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, G.M., inzh.; ZHIDKOV, A.A., inzh.; TIMOFEYEVA, V.I., inzh.

Automatic controllers of the EAUS-u electronic system. (MIRA 16:7)
Teploenergetika 10 no.6:81-86 Je '63.

1. Vsesoyuznyy teplotekhnicheskiy institut. (Electric controllers) (Automatic control)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, M.P.

Present state and future changes in the stock of the starred sturgeon (Acipenser stellatus Pallas) in the Caspian Sea after the regulation of streamflow. Trudy VNIRO 52:259-286 '64. (MIRA 17:10)

1. AzerNIRL.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, S.

Wrote about construction of Kuybyshev Hydroelectric plant, water reservoir and water supply and power center.

Soviet Source: N: Pravda, No. 119, 29 Apr. '51, Moscow. Abstracted in USAF "Treasure Island", on file in Library of Congress, Air Information Division.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, P.V.

TITOV, V.D., gornyy inzhener; TARAN, P.N., gornyy inzhener; ZYMALEV, G.S., gornyy inzhener; OSTROUKHOV, A.I., gornyy inzhener; AL'TSHULER, M.A., gornyy inzhener; BORZENKO, P.V., gornyy inzhener.

"Underground mining of ore and placer deposits" by R.P. Kaplunov and other. Reviewed by V.D. Titov and others. Gor.zhur.no.11:63-64 N '56. (MLRA 10:1)

(Mining engineering--Study and teaching)
(Kaplunov, R.P.)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, P.V.

AL'TSHULER, M.A., inzhener; BORZENKO, P.V., inzhener; PEREYASLAVSKIY, N.R., inzhener.

Improving hard ore mining. Bezop. truda v prom. 1 no.4:15-18 Ap '57. (MLRA 10:6)
(Mining engineering)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, S. and IAKHNEVICH, B.

"The men of the Great Construction," Velikie Stroiki Kommunizma (GReat Constructions of Communism), Acad. of Pedagogic Scis. of the RSFSR, Moscow, 1951, 383 p.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

ACCESSION NR: AM3001191 S/0012/63/000/166/0003/0003

AUTHOR: Borzenko, S. and Denisov, N.

TITLE: Pilot-cosmonaut Valeriy Bykovskiy

SOURCE: Pravda, 15 Jun 63, p. 3, col. 1-6

TOPIC TAGS: General characteristic of V. Bykovskiy

TEXT: It is mentioned that V. Bykovskiy was at the cosmodrome during the launching of Vostoks 1, 2, 3, and 4. The Theoretician of Cosmonautics is also mentioned by the authors [few other sources on Vostok-5 mention him]: "Even long before the flights of the Vostok-3 and Vostok-4, the Chief Designer [of the Vostok spaceships] and the Theoretician of Cosmonautics.... saw in Valeriy Bykovskiy an analytical mind, an inclination to generalization, and the ability to make the right decision quickly in complex situations."

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ACCESSION NR: AM3001191

In this and other articles published in connection with the Vostok-5 flight, the authors use the term "cosmonaut detachment" instead of the term "cosmonaut group," as was used in previous publications. According to these articles, Cosmonaut Yuriy Gagarin is the cosmonaut detachment commander. Bykovskiy's backup pilot is also mentioned. According to Brzenko and Denisov, he is a tall young man with clear eyes; he is quiet and is deliberate in his judgment.

The important purpose of this launching and significant changes in spaceship design are emphasized. The authors state: "...Never before has science come up with such tasks as were put by Soviet scientists to V. F. Bykovskiy. For the solution of these tasks, the design concepts of the developers of space technology improved the ship and ... developed the most precise instruments and reliable apparatuses...."
SPAD = Item no. 2

DATE ACQ: 16Jun63

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, S.A., Zasluzhennyy deyatel' nauki Sovetskogo Soyuza, polkovnik, voyennyy korrespondent Pravdy

Bratstvo Sovetskikh Respublik v gody Velikoy Otechestvennoy voyny

The 62nd Novorossiyskiy Brigade. Mor. sbor. 45 no.3:19-27 Mr '65. (MIRA 18:8)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, Sergey Aleksandrovich, Geroy Sovetskogo Soyuza; KORNILOVA, M.I., red.; STUDENETSKAYA, V.A., tekhn.red.

[Teachers and students] Uchitelia i ucheniki. Moskva, Izd-vo VTsSPS, Profizdat, 1959. 205 p. (MIRA 13:6)
(Labor and laboring classes)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, Sergey. A. geroy Sovetskogo Soyuza

My friends and comrades. Sov.foto 20 no.2:21-22 F '60.
(MIRA 13:7)

(Photography, Artistic)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, Sergey

For general disarmament and peace. Sov. foto 22 no.7:1-9 Jl '62.
(MIRA 16:4)

(Disarmament) (Photography—Exhibitions)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, Sergey, Geroy Sovetskogo Soyuza

At the forefront of life. Sov. foto 23 no.4:21 Ap '63. (MIRA 16:5)

(Riumkin, IAkov, 1913-)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, V.

Sampler for dustlike materials. TSvet. met. 37 no.9:94 S '64.
(MIRA 18:7)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

KULIKOV, A.Ye.; BORZENKO, V.A.; POKHODENKO, N.T.

Nomogram for calculating hydraulically relieved end packing. Mash. i neft. obor. no.6:38-39 '65. (MIRA 18:7)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke nefti, Ufa.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

KREYMER, M.L.; BORZENKO, V.A.; BIKTIMIROV, F.S.; STEPANOV, N.P.

Certain data on the industrial evaluation of the efficiency of a sieve plate with a baffle arrangement. Trudy BashNII NP no.6: 217-225 '63. (MIRA 17:5)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

MINENKO, V.A.; ALEKSANDROV, A.A.; SVETS, V.Ye.; BORZENKO, V.P.; KURILOV, P.G.; KHAZANOVICH, N.L.; Prinimali uchastiye: POPOV, A.I.; KONOVALOV, A.N.; TERTYCHNAYA, I.Yu.; POSHKREBNEV, V.P.; DMITRIYEVA, S.M.; KORNILOVA, A.V.

Work organization in the section, of metal feed to blooming mills. Met. i gornorud. prom. no.2:67-68 Mr-Ap '64.
(MIRA 17:9)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

BORZENKO, V.V.; RYZHAK, I.A.

Use of the storage effect for measuring the life of minority current carriers. Izv. vys. ucheb. zav.; radiotekh. 5 no.3:388-390 My-Je '62. (MIRA 15:9)

1. Rekomendovano kafedroy sverkhvysokikh chastot Khar'kovskogo gosudarstvennogo universiteta imeni A.M. Gor'kogo.
(Semiconductors) (Transistors)

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BORZENKO, V.V.; BAGROV, G.V.

Measurement of the parameters of variable capacitance diodes at ultrahigh frequencies. Izv. vys. ucheb. zav.; radiotekh. 6 no.5:575-576 S-O '63. (MIRA 17:1)

1. Rekomendovano kafedroy fiziki sverkhvysokikh chastot Khar'kovskogo gosudarstvennogo universiteta.

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ACCESSION NR: AP4012368 S/0142/63/006/006/0708/0710

AUTHORS: Borzenko, V. V.; Bagrov, G. V.; Petrov, V. A.

TITLE: Germanium alloy diode with variable capacitance

SOURCE: IVUZ. Radiotekhnika, v. 6, no. 6, 1963, 708-710

TOPIC TAGS: diode, alloy junction diode, germanium diode, germanium alloy junction diode, diode junction capacitance diode, variable junction capacitance, semiconductor doping, diode impurity concentration, diode figure of merit, diode time constant, diode breakdown voltage, diode optimal impurity concentration

ABSTRACT: In order to obtain a suitable variable-capacitance diode for use in microwave amplifiers, an attempt has been made to produce an alloy diode with variable capacitance and maximum Q, since maximum Q and maximum bandwidth are among the main requirements that must be satisfied by such a diode capacitor. As a result of combined calculations and experiments (for maximum impurity concentration) have shown that the germanium used for diodes with variable

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capacitance and alloy contact should have a specific resistivity 0.02 ohm-cm. Such diodes have a time constant not larger than 1.5 nanosecond, and their main shortcoming is the relatively low breakdown voltage (3--3.5 V). An equation is derived for the Q in terms of the impurity atom concentration, the contact potential difference, and the diode inverse bias. It is shown that an optimal impurity concentration exists, from which the optimum resistivity is determined. Orig. art. has: 9 formulas, and 1 table.

ASSOCIATION: Kafedra fiziki SVCh Khar'kovskogo gos. universiteta im. A. M. Gor'kogo (Department of Microwave Physics, Khar'kov State University)

SUBMITTED: 06Dec62 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: SD NO REF SOV: 001 OTHER: 001

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206610005-1

ACCESSION NR: AP4018389 S/0120/64/000/001/0186/0188

AUTHOR: Borzenko, V. V.; Bagrov, G. V.

TITLE: Method for soldering contacts to small p-n junction areas by means of vacuum metal spraying

SOURCE: Pribory* i tekhnika eksperimenta, no. 1, 1964, 186-188

TOPIC TAGS: pn junction, pn junction contact, vacuum metal spraying, Al spraying, In ball contact, semiconductor

ABSTRACT: A new method for making contact with small-area p-n junctions is proposed. Enclosure 1 illustrates the sequence of operations. Al is sprayed on p-Ge through a stencil with rectangular holes 30 x 50 or 50 x 100 microns. In a hydrogen furnace, Al is fused into Ge. An Al_2O_3 film is sprayed under vacuum over the entire Ge surface. The billet is again placed into the hydrogen furnace and heated to 660C which results in an insulating film covering the Ge surface.

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except for the p-n junction area. A small ball of In is placed upon the p-n area and fused within in the hydrogen furnace. Orig. art. has: 6 figures.

ASSOCIATION: Khar'kovskiy gosudarstvenny*y universitet (Khar'kov State University)

SUBMITTED: 14Jan63 DATE ACQ: 18Mar64 ENCL: 01

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L 49138-65 EWT(l)/EWT(m)/EWP(t)/EWP(b)/EWA(h) Peb IJP(c) JD
ACCESSION NR: AP5010873 UR/0286/65/000/007/0045/0045

AUTHOR: Bagrov, G. V.; Borzenko, V. V.; Tsarenko, V. T. 16 B

TITLE: Electrically controlled shf attenuator utilizi a germanium plate. Class 21, No. 169599 25 27

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 45

TOPIC TAGS: attenuator, shf attenuator, electrically controlled attenuator

ABSTRACT: The proposed attenuator utilizes a germanium plate and is designed to improve attenuation and control the characteristic at both inputs. A p-n junction with an unbalanced carrier concentration is connected to the input of the device, and an attracting electric field is applied which changes the conductivity of the part of the plate that absorbs the shf energy. Orig. art. has: 1 figure. [DW].

ASSOCIATION: none

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L 22775-66 EWT(1)/EWA(h)
ACC NR: AP6010724 SOURCE CODE: UR/0142/66/009/001/0063/0070

AUTHOR: Tsarenko, V. T.; Bagrov, G. V.; Borzenko, V. V.

ORG: none

TITLE: Semiconductor waveguide attenuator with combinational electric control for shf power stabilization

SOURCE: IVUZ. Radiotekhnika, v. 9, no. 1, 1966, 63-70

TOPIC TAGS: microwave attenuator, microwave power stabilization, pn junction

ABSTRACT: A description is given of a wide-band voltage-controlled semiconductor attenuator for regulation of the shf output power level of waveguides operating on the 3-cm wavelength. The semiconductor attenuator is shown in the figure. The Ge wafer with ohmic contacts 1, 2, 3, and rectifying contact 4 form a distributed p-n junction. To reduce the ripple of the attenuation-frequency characteristic and the initial losses, the wafer thickness is less than the skin depth of the uhf field in the semiconductor (i.e., 0.6 mm). The wafer may be mounted either perpendicular to or parallel to the longitudinal axis of the waveguide (see Fig. 1). Voltage potential E_T is applied between contacts 1 and 2, and a field is created, causing the flow of current I_f

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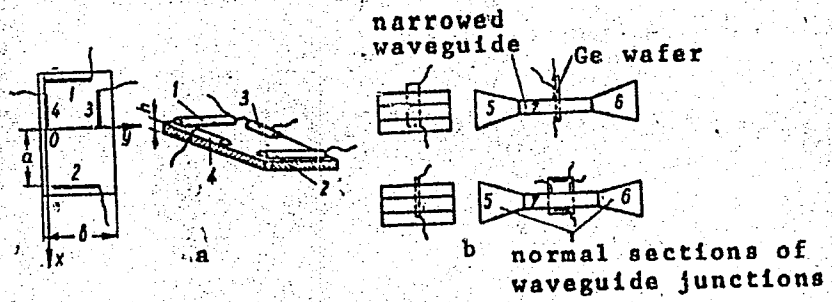

Fig. 1. Attenuator construction (a) and mounting in waveguide (b)

in the forward direction between contacts 3 and 4. Passage of current I_f through the p-n junction causes the holes to be injected into the sample. As a result, excess carrier concentration arises in the p-n junction. Due to the gradient of carrier concentration along the length of sample, the holes partially diffuse into the region inside the waveguide. Voltage E_T accelerates the motion of the holes and increases their diffusion length. The lifetime of the holes becomes sufficiently long for them to reach point x = a (Fig. 1a). This causes a substantial increase of sample conductivity and, indirectly, the attenuation of the electromagnetic wave as it passes through the semi-

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conductor sample. Test results indicate that the transmission factor does not vary by more than 3 db in a 20% frequency band. The speed of response of the device operating in the pulsed mode was 200—220 μsec for E_T = 0 and 20—30 μsec for E_T = 2v/cm. The attenuation characteristic $S_v = d\alpha/dI_f$ (α, attenuation) was 300—600 per amp for optimum E_T. The maximum dynamic range of the attenuator was 20 db. The attenuator may be effectively used in automatic systems requiring high-speed shf power level regulation, shf detectors, and directional couplers. The two control signals are the error signal and its differential. Orig. art. has: 4 figures and 2 formulas. [BD]

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ATD PRESS: 4229

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BORZENKO, Ye.A.

Method for protection of sectional insulators from overfiring of conductors. Elek.i tepl.tiaga 3 no.11:29-30 N '59. (MIRA 13:3)

1. Nachal'nik Lobnenskogo uchastka energosnabzheniya Moskovskoy dorogi.
(Electric insulators and insulation)

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VETROV, Nikolay Ivanovich; BORZENKO, Ye.A., inzh., retsenzent; SIDOROV, N.I., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Operation and repair of overhead d.c. contact systems] Ekspluatatsiia i remont kontaktnoi seti postoiannogo toka. Moskva, Transzheldorizdat, 1962. 166 p. (MIRA 15:9)
(Electric railroads—Maintenance and repair)
(Electric lines—Overhead)

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BELYAYEV, I.A., inzh.; VETROV, N.I., inzh.; MARGOLIS, S.M., inzh.; BORZENKO, Ye.A., inzh., retsenzent; MIKHEYEV, V.P., kand. tekhn. nauk, retsenzent; GORCHAKOVA, O.D., inzh., red.; VOROB'YEVA, L.V., tekhn. red.

[Installation, operation and repair of overhead contact systems] Montazh, ekspluatatsiia i remont kontaktnoi seti. Moskva, "Transport," 1964. 294 p. (MIRA 17:3)

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BORZENKOV, A.A., inzh.

Soldering fittings to flexible metal hoses in atmosphere of dissociated ammonia. Svar. proizv. no.4:35 Ap '65.
(MIRA 18:6)

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BORZENKOV, D. S.

"The Immunizing Properties of Vaccine Made From Brucella suis Strain No 61 and Relation of Its Strength to Dosage and Method of Application." Cand Vet Sci, All-Union Inst of Experimental Veterinary Sci, Moscow, 1954. (RZhKhim, No 17, Sep 54)

SO: Sum 432, 29 Mar 55

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