"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVAC-PRPIC, A.; FLES, Dragutin

Synthetic studies in the polyene series. II. Synthesis of 15,15'-dihydro-β-carotene. Croat chem acta 32 no.2:91-101 '60. (EEAI 10:4)

1. Research Department, "Pliva" Pharmaceutical and Chemical Works, Zagreb, Croatia, Yugoslavia. 2. Redakcioni odbor (Committee of Publication), Croatica Chemica Acta, member of the Committee (for Fles).

(Carotene) (Dihydrocarotene)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVAC-PRPIC, A.; FLES, D.; MILOHNOJA, M.

Synthesis and resolution of 1-phenyl-1-o-chlorophenyl-3-dimethylamino-propanol-(1). Croat chem acta 32 no.4:209-212 '60.
(EEAI 10:9)

1. Research Department "Pliva", Pharmaceutical and Chemical Works, Zagreb, Croatia, Yugoslavia.

(Amino alcohols) (Propyl alcohol)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVAC-PRPIC, A.; TIPIC, N.

New method for the preparation of arylsulphonylureas. Croat chem acta 35 no.1:73-75 '63.

1. Research Department "Pliva", Pharmaceutical and Chemical Works, Zagreb, Croatia, Yugoslavia.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARK[illegible], A.; TIPIC, N.

Synthetic studies in the [illegible]nemide series [illegible]. Croat chem acta 35 [illegible]4:2[illegible]-2[illegible] [illegible].

1. Research Department, "[illegible]" Pharmaceutical and Chemical Works, Zagreb, Croatia, Yugoslavia.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVAYA, L. V., BABKO, A. K.

"Photometric Determination of Micro-Quantities of Sulfides and Sulfur in Metals by Catalytic Action in the Iodine-Azide Reaction

submitted at the Conference on Kinetic Methods of Analysis, Ivanovo, 14-16 June 1960

So: Izvestiya Vysshikh Uchebnykh Zavedeniy SSSR, Khimiya i Khimicheskaya Techonologiya, Vol III, No 6 Ivanovo, 1960, pages 1113-1116.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCHINA, K.S.; FINUS, A.M.

Rapid method for the analysis of sintered hearth bottom. Zav.lab. 28 no.7:805-806 '62 (MIRA 15:6)

1. Dneprovskiy metallurgicheskiy zavod im. Dzerzhinskogo.
(Metallic oxides)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

RADIOBIOLOGY

YUGOSLAVIA

KILIBARDA, M.; MARKOVIC, B.; ZIVANCEVIC, S. and PANOV, D.; Institute of Occupational Medicine of the Socialist R public of Serbia (Institut za medicinu rada SRS,) Belgrade.

"Osmotic Resistance of Leukocytes Following Fractionated X-Irradiation of Rats."

Zagreb, Arhiv za Higijenu Rada i Toksikologiju, Vol 16, No 4, 1965; pp 353-356.

Abstract [English summary modified]: Whole-body irradiation in rats exposed to X-rays 1 r per min, 3 mA 70 kV for 20 minutes weekly for 20 weeks was followed by a progressive fall in osmotic resistance and longevity of white blood cells. Table, graph, 2 Soviet and 7 Western references; ms received 21 Jan 65.

1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCIC, B., inz.

19th Conference on Large Electric Systems, held in Paris 1962.
Energija Hrv 11 no.7/8:251-252 '62.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCIC, Boris, inz.

"Electric migrating waves" by R. Rüdenberg. Reviewed by B. Markovcic. Energija Hrv 11 no.11/12:415 '62.

1. Clan Urednickog odbora, "Energija".

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MA[illegible], [illegible]ris, dip[illegible]. (Zagreb)

Adjustable transformer in a power-supply system. Energija Hrv 12 no. 9/10:272-276 '63.

1. Institute of Electric-Power Engineering, Zagreb. Chief Editor, "Energija".

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCIC, Boris, dipl. inz.

First consultations on the exploitation of the 110 and 200 kv. transmission networks and transformer stations in Yugoslavia. Energija Hrv 12 no. 9/10:307-309 '63.

"Electric-power stations and netowrks" by Buchold-Happoldt. 4th ed. Reviewed by B. Markovcic. Ibid.:316.

1. Chief and Responsible Editor, "Energija".

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCIC, Boris, dip.. inz.

Role of the protective cable in case of an and [illegible] [illegible] kv. and 220 kv. transmission lines. Energija Hrv .3 no.3 [illegible]

1. Institute of Electric Power Systems, [illegible] 37.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOV[illegible], Boris, [illegible]

[illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCIC, Boris, inzh.

Regulating transformers in electric-power sypply systems. Elektroprivreda 17 no. 2:75-79 F '64.

1. Member of the Board of Editors (of Croatia), "Elektro-privreda".

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

Markovic, I.

The kinetics of the formation of aluminum hydroxide by the seeding of sodium aluminate solutions with hydrargillite crystals. I. Experiments with heterodisperse seeding material. S. Marčić and I. Markovic (Inst. Light Metals, Zagreb, Yugoslavia). *Z. anorg. u. allgem. Chem.* 276, 193-203(1954).—To supersatd. solns. of $Al(OH)_3$ in NaOH soln. were added varying amts. of polydisperse $Al(OH)_3$ crystals. The sepn. of $Al(OH)_3$ was followed by analysis of the supernatant, and measurements of particle-size distribution of the ppt. at different times. In about the first 8 hrs. the main process was the formation of new particles. In the later stages the growth of existing particles predominated. This is contrary to the results of Wrigge and Ginsberg (*C.A.* 46, 3716b; 47, 2945f) but in agreement with those of Herrmann and Stipetic (*C.A.* 44, 8208f) and Calvet, *et al.* (*C.A.* 46, 8284d). H. Newcombe

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCIC, I.

CH

The kinetics of formation of [illegible] by seeding sodium aluminate [illegible] crystals. II. Experiments with a seed classified according to particle size. S. Maričić and I. Markovčić (Inst. lake metals, Zagreb, Yugoslavia). [illegible] 27, 41-7 (1955)(in English); cf. C.A. 49, 701i.—$Al_2O_3 \cdot 3H_2O$ suspensions obtained by seeding Na aluminate solns. with hydragillite crystals classified by size were studied. Particle-size cumulative and frequency-distribution curves of suspensions were detd. by the pipet method. Decomp. of Na aluminate solns. on seeding occurred simultaneously by crystal growth, by formation of closely bound agglomerates (intercrystn.), and by formation of new crystallites. The latter 2 mechanisms are characteristic of particles below 20 μ, notably of those of ~ 10 μ. The effect of the seed depends on its abs. amt. and on its size distribution.

N. Plavšić

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVIC, I.

[redacted]

Kinetics of formation of aluminium hydroxide by seeding sodium aluminate solutions with hydrargillite crystals. —II. Experiments with particle-size-classified seed. S. Matijević and I. Marković. III. Effect of coarse-grained seed. S. Matijević and [redacted] Kem. 1963, 27, 41—47, 215—216). —II. The decomposition of Na aluminate solutions initiated by seeding is complex, the process beginning with the formation of new crystallites and ending by crystal growth. The earlier studies (Matijević and Markovčić, Z. erg. Chem., 1954, 270, 193) have been followed by studies of seeding with hydrargillite crystals (I). It is shown that the effect is dependent both on the absolute amount and the particle-size of I. For a particle-size <20 μ (especially ~10 μ) the characteristic mechanisms are formation of firmly bound agglomerates (intercrystallization) and of new crystallites, whereas for larger particles, normal crystal growth predominates.

III. Seeding with coarse- and fine-grained particle mixtures of I gave results which confirmed that nucleation is only caused by the finer particles and that coarse particles play a passive role. J. S. C.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVČIĆ, Ivanka

5

Chemical-technological analysis of a possible processing of Herzegovinian bauxite by the Bayer method. Siniša Maričić (Inst. "Rudjer Bošković," Zagreb, Yugoslavia), Ivanka Markovčić, and Milan Vidan. *Kem. i ind.* (Zagreb) 6, 137-40(1957).—The soly. of the Al_2O_3 component of Herzegovinian bauxite (I) was intermediate between those typical for the European and American variations of the Bayer process. The ratios Na_2O/Al_2O_3 are presented graphically *vs.* g. Na_2O/l. of decompn. liquor, for the processing of I. N. Plavšić

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVCIC, Milutin, dr.

Results of the use of melbrosin as a supporting drug in the treatment of pulmonary tuberculosis. Med. glasn. 13 no.11:549-550 N '59.

1. Bolnica za plucne bolesti "Jordanovac" u Zagrebu, Ravnatelj: prim. dr. S. Ibler.
(ANTITUBERCULAR AGENTS ther.)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

[illegible]

[illegible] silica gel and aluminum oxide. [illegible] 1964.

[illegible] Hochschule fur [illegible].

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

CZECHOSLOVAKIA

MARKOVEC, L; LANDA, S.

Institute for Synthetic Fuel and Petroleum, Chemical Technical College, Prague - (for both).

Prague, Collection of Czechoslovak Chemical Communications, pp 3672-3686.

"On the regrouping of double bonds in some olefines in silica gel and aluminum oxide chromatography. Part 2: Structural change in trialkilethylene and 2,4,4-trimethyl-1-pentane."

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, A.F.

MARKOVETS, A.F. "data on the biology of winter measuring worm moths (O. brumata L.) in the Belorussian SSR", Uchen. Zapiski (Belorus. Gos. un-t), Issue 7, 1948, p. 175-81

SO: U-3261 10 April 54, (Letposi 'Zhurnal 'Nykh Statey no 11, 1949)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, A.F.

22559 Markovets, A.F. I Vreditel Sladkikh Lu inov V BSSR. Izvestiya Akad Nauk BSSR, 1949, No. 3, S.101-03.

SO: Letopis No. 30, 1949

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, A.F., kandidat biologicheskikh nauk; ZHABINSKAYA, M.I.

The frit fly (Oscinosoma frit L.) in the White Russian S.S.R. Sbor.nauch.trud.Inst.biol.AN BSSR no.2:62-72 '51. (MLRA 9:1)

(White Russia--Frit flies)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, A.; ZHABINSKAYA, M.

Effect of cultivation practices in protecting grain crops from grain flies (frit fly and Chlerops pumilionis). Sbor.nauch.trud.Inst.biol. AN BSSR no.3:39-49 '52. (MLRA 9:2)
(Grain--Diseases and pests)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, A. F.

[Pests of forage plants and methods of controlling them] Shkodniki karmavykh raslin i mery barats'by z imi. Minsk, Akademiia navuk BSSR, 1954. 63 p. (MLRA 10:4)

(Forage plants--Diseases and pests)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

P

USSR / General and Specialized Zoology. Insects.

Abs Jour: Ref Zhur-Biol., No 2, 1958, 6758.

Author : Markovets, A. F., Zhabinskaya, M. I.
Inst : Institute of Socialist Agriculture, AS BSSR.
Title : The Damage to Herbs by the Swedish Fly on the Territory of Belorussian SSR.

Orig Pub: Sb. nauchn. tr. In-ta sots. s.-kh. AN BSSR, 1956, vyp. 4, 282-289.

Abstract: The results of damage by the swedish flies of various grain grasses 1-4 years old and of various mixtures of grasses were reported in five tables. The swedish fly damaged the majority of cultured and wild grain herbs, especially the field fescue grass and the timothy grass in the fall. One should avoid planting grains with the grasses or dust with a 12% hexachlorocyclohexane dust (8 kg/hect) the crops of the grains when 2-3 leaves appear. -- A. P. Adrianov.

Card 1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, A.F., kand.biolog.nauk; MEZIN, A.F.

In White Russia. Zashch. rast. ot vred. i bol. 7 no.2:3-6 F '62. (MIRA 15:12)

1. Nachal'nik Upravleniya zashchity rasteniy Ministerstva sel'skogo khozyaystva Belorusskoy SSR (for Markovets).
2. Glavnyy agronom Upravleniya zashchity rasteniy Ministerstva sel'skogo khozyaystva Belorusskoy SSR (for Mezin).
(White Russia--Plants, Protection of)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, L.; GALA, S.; LANDA, S.

Isolation of the main components of technical diisobutylene and determination of their structure. Neftekhimiia 5 no.6:835-844 N-D '65. (MIRA 19:2)

1. Kafedra iskusstvennogo zhidkogo topliva i nefti Khimiko-tekhnologicheskogo instituta, Praga. Submitted April 21, 1965.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.; PASHNINA, V.I

Device for determining the diameter and depth of the impression caused by the pressing-in of a ball. Izm. tekh. no.1,32-33 Ja '65. (MIRA 18:1)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

*Mechanical Properties of Magnalium. M. P. Moskovec (Tekh. Vozdush. Flota (Tech. Air Force), 1937, (6), 75-81).—[In Russian.] When cold-rolled (80% reduction) Magnalium is annealed for 24 hrs. at 75-85° C. the tensile strength is 46-50 kg./mm.², the yield-point 33-35 kg./mm.², the limit of proportionality 27-30 kg./mm.², and the elongation 11-14%; after annealing at 390-410° C. the corresponding values are 33-35, 16-18, 12-16 kg./mm.², and 18-26%. The alloys tested contained magnesium 8·2-8·5, manganese 0·7-0·9, and iron + silicon 0·7-0·8%.—N. A.

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

1ST AND 2ND LETTER

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

[redacted]

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

S

The Evaluation of the Ductility of Metals in Bending. M. P. Markovets. (Zavodskaya Laboratoriya, 1939, No. 10–11, pp. 1155–1162). (In Russian). A preliminary discussion, illustrated by some experimental results, leads the author to the conclusion that it is the necking, or reduction-in-area, characteristic that determines the behaviour of a metal in bending, and not the elongation, as the latter is not a single property but is made up (*e.g.*, as measured in the tensile test) of localised and general elongation, and it is thus possible that a metal with a high elongation will fail more readily than a metal with a lower elongation. In bending round a fixed radius the outer fibres are stretched uniformly with a maximum elongation corresponding with the reduction of area in a tensile test. The minimum radius (r) of curvature in bending is given by

$$r = \frac{1 - 2\phi}{2} \times h$$

where ϕ is the reduction in area in the tensile test and h is the height of the material in the bending plane. A method of measuring the reduction in area in the case of flat thin test-pieces is described. A considerable amount of experimental data obtained for steels and aluminium and magnesium alloys is quoted and is found to substantiate the accuracy of the limiting radii of curvature in bending calculated from the above expression, as compared with actual measurements.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M. P.

Raschet detalei na prochnost' s uchetom polzuchesti. (Tekhnika vozdushn[illegible] fl[illegible] flota, 1944, no. 10, p. 17-19, 37, tables, diagrs.)

Title tr.: Strength calculation of aircraft members, creep stress being taken into consideration.

TL504.T4 1944

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M. P.

Raschet na prochnost' pri izgibe za predelom tekuchesti. (Tekhnika vozdushnogo flota, 1945, no. 12, p. 1-5, diagrs.)

Title tr.: Calculation of bending strength beyond the yield point.

TL504.T4 1945

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

PROCESSES AND PROPERTIES INDEX

13

B

*294. **An Indirect Method for Determining Resistance to Destruction.** (In Russian.) M. P. Markovets. *Factory Laboratory* (U.S.S.R.), v. 13, July 1947, p. 870-878.

Difficulties connected with determination of the true resistance to fracture of metal test specimens are pointed out and an indirect theoretical method is worked out which is claimed to be superior to any previously proposed. A comparison of the experimental with the calculation methods for a series of metals shows an average deviation of 5.8%. Also gives results of experiments on application of the method at high temperatures. 14 ref.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

PROCESSES AND PROPERTIES INDEX

13

*24. **Relationship of Fatigue Limit and True Tensile Strength.** (In Russian.) M. P. Markovets. *Factory Laboratory* (U.S.S.R.), v. 13, Aug. 1947, p. 1003-1007.

The closest relationship is shown by the formula: tensile strength equals yield point times the sum of 1.35 times the percent reduction in area plus one. A formula for the strength of high quality structural steel is proposed, based on the above. 12 ref.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

13

*188. Calculation of the Moment of Torsion Failure by Use of a Diagram of True Stresses. (In Russian.) M. P. Markovets. *Zavodskaya Laboratoriya* (Factory Laboratory), v. 13, Dec. 1947, p. 1476-1481.

Proposes a new formula for determination of the moment for cylindrical metal rods which exhibit shearing fracture during tensile and torsion testing.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

18

MACHINE FOR FATIQUE TESTING AT HIGH TEMPERATURES. M.P. Markovets, I. A. Smiyan, and N. I. Mikheev. (ZAVODSKAYA LABORITORIYA, 1949, vol. 15, Jan., pp. 82-85). (In Russian). A rotating cantilever fatique-testing machine is described for use at temperatures up to 900° C. The temperature of the test is automatically regulated to ± 2° C., and the maximum stress that can be applied to the specimen is 60 kg./sq. mm. The [redacted] importance of correctly measuring the surface temperature of the specimen in fatique tests is pointed out, and a special device for this is incorporated in the design of the machine. Specimens up to 10 mm. in dia. can be dealt with. The overall dimension of the machine are: Width, 500 mm.; length, 1000 mm.; height, 1100 mm. -S.K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

13

Portable Creep-Test Machine. (In Russian.) M. P. Markovets and N. I. Mikheev. *Zavodskaya Laboratoriya* (Factory Laboratory), v. 15, Mar. 1949, p. 376-378.

Describes and diagrams apparatus suitable for temperatures up to 900°C. with a maximum load of 800 kg. Electric circuit for automatic control of temperature within ±2°C. is also shown.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

18

MACHINE FOR CREEP-TESTING UP TO 800°C. M.P. Markovets, T.N. Stasiuk and N.N. Kolupaev. (Zavodskaya Laboratoriya, 1949, vol. 15, Apr., pp. 500-502). (in Russian) A machine is described, which, while simple and easily maintained, enables specimens to be tested for tensile strength, for creep, and for rapid extension to the yield point, and the modulus of normal elasticity by the static method.. The maximum operating temperature of the machine is 800° C., the automatic regulation being within ±2° C. The effective length and diameter of the specimen are 100 mm. and 10 mm., respectively, the maximum load being 5000 kg.

S.K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

M

•Construction of the Diagram of True Stresses from Hardness and Technological Tests. M. P. Markovets (*Zhur. Tekhn. Fiziki*, 1949, **19**, (3), 371-382). [In Russian]. The proposition that the mechanical characteristics of metals may be indirectly determined from hardness tests is due to Davidenkov (cf., e.g. *ibid.*, 1943, **13**, 389). The present paper is one of a series of investigations devoted to elaborating and verifying Davidenkov's thesis; in this case, however, the impressions were made with spheres instead of the usual cones and pyramids. Furthermore, the specimens had a circular network or pattern preliminarily engraved on them, the distortion of which by the impression permitted the degree of actual deformation of the material to be determined with high precision. It was thus possible to find not only the value of the yield strength, but also the true stresses in tensile stressing, from ball hardness tests. An additional, technological test (drilling a hole in a square plate 6 × 6 × 1 mm. and measuring the width and thickness of the raised edges) enables the contraction of the cross-section on failure to be determined. B. F. K.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Rheology (Plastic, Viscoplastic Flow)

28

AMA

4446. Davidenkov, N. N., Markovets, M. P., and Timofeeva, M. N., On the nature of warping after plastic bending (in Russian), Zh. tekh. Fiz. 21, 2, 178-186, Feb. 1951.

A rod, if bent (or straightened) plastically and then left free at high temperature, gradually unbends (or rebends) to some extent. Authors discuss two alternative interpretations of this behavior and an experimental method for deciding between them. Interpretation 1 attributes behavior to elastic aftereffect of individual fibers whose interactions are supposed negligible. Interpretation 2 supposes individual aftereffects small, it attributes behavior to interaction between those portions (A) of cross section where yield point has been exceeded, and those portions (B) where it has not. Since A by itself would have residual bend, whereas B would not, mutual constraints produce inhomogeneous state of macroscopic stress; creep or relaxation occurs at different rates in A and in B, because of their different plastic states, hence, over-all residual bend changes with time. Behavior in flexure should parallel that in tension according to interpretation 1, but not according to interpretation 2. Authors present data, at several temperatures, on flexure of aviation piston rings (with ends clamped in contact for several hours, then left free for several) and on tension of rods of similar material. In both cases, residual strain after 3 hr under load is from 1/10 (at 300 C) to 1/6 (at 400 C) of total strain under load; change after unloading is of this same order for flexure but only of order 10 ° for tension. Authors conclude that interpretation 2 is correct for materials tested.

William Fuller Brown, Jr., USA

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

Markovets, M. P.

On the Construction of Fatigue Diagrams for Asymmetric Cycles. M. P. Markovets. (*Zavodskaya Laboratoriya*, 1955, 21, (3), 355-364). [In Russian]. A method for constructing fatigue diagrams from asymmetric cycle test-data is described which has been experimentally verified only for the initial part of the diagram, where stresses are below the yield-point value.—S. K.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.

32-6-25/54

AUTHOR: MARKOVETS, M.P.

TITLE: The Method for Determining the Boundary Plasticity in the Case of the Torsion of Metal. (O metodike opredeleniya predel'noy plastichnosti pri kruchenii, Russian)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol 23, Nr 6, pp 715-720 (U.S.S.R.)

ABSTRACT: According to YAKULOVICH it is necessary, when calculating deformation, to take the localization taking place due to torsion into account. Calculations of boundary plasticity were then compared with the characteristic for elongation. When calculating the former the following dependence was found: At first the results obtained by calculating the dependence between the angles of displacement and the maximum transversal contraction of the surface are determined. The following table serves for computing the angle of displacement: $\psi = f - \frac{\cos(45^\circ + \gamma)}{\cos 45^\circ}$, from which the γ-angle of displacement is calculated. It may further be seen from the table that deformations of material near the place of descruction are greater than at a distance of 15 mm from this place. This can be explained by localization of the deformation at the place of destruction. In the case of extension the localization of deformation is always greater, because the diameter is reduced, than the size of the surface. With torsion this is not the case because the localization of deformation

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

32-6-25/54

The Method for Determining the Boundary Plasticity in the Case of the Torsion of Metal.

is here much smaller than in the case of extension. When calculating the boundary plasticity in the case of torsion, the average boundary deformation was measured on the surface like in the case of extension.

Computation:

a) Measuring of the angle of shift: $\gamma \ldots \frac{m}{l} = tg\,\gamma\; tg(45^\circ + \gamma_1) =$
$= tg \quad +1, \quad =$

b) Deformation: $\psi = 1 - \frac{\cos(45^\circ + \gamma_1)}{\cos 45^\circ} \ldots$

The deformation which occurred when measuring torsion in the direction of the shift angle at a distance of 15 mm and the angle of shift which is computed from the formula $tg\,\gamma = \frac{r\varphi}{l}$ give the boundary transformation caused by torsion.

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

AUTHOR: Markovets, M.P. 32-12-47/71

TITLE: The Application of the Machine of the Type "НУ" for Testing Metal Fatigue at High Temperature (Primeneniye mashiny marki "НУ" dlya ispytaniya na ustalost' pri vysokikh temperaturakh).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1509-1509 (USSR)

ABSTRACT: In this paper an improved construction for the testing machine of the type "НУ" is recommended. The following modifications are mentioned: In order to avoid heat being transferred to the bearings of the testing machine, they are provided with an air cooling system, which is provided by a ventilator built into the bearings. Furthermore, the electric furnace used here may be taken apart and is provided with two thermocouples. The first is arranged in such a manner that it can be conveyed to a distance of 0.5 mm of the sample with its soldered parts, and it is connected to a movable potentiometer of the type "ПП-1". The second thermocouple is approached to the winding of the electric furnace and is connected to another potentiometer of the type "ЭПД-17", which regulates the heat of the electric furnace and, at the same time, records it. The two thermocouples indicate different temperatures (the difference is

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

The Application of the Machine of the Type "HU" for Testing Metal Fatigue at High Temperature 32-12-47/71

about 10°). This is explained by the fact that the rapidly moving sample mixes the air surrounding it, thus warranting uniform distribution of the heat in the furnace, i.e. that, in this case a lower temperature is recorded than on the other thermocouple (mean temperature). In the latest construction a larger space (compared to the older type) is, among other things, provided for the electric furnace. There are 2 figures.

AVAILABLE: Library of Congress

Card 2/2 1. Machines-Metals-Testing 2. Metals-Fatigue

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

AUTHORS: Markovets, M.P., Tret'yakov, V.P. 32-3-27/52

TITLE: A Method of Determining Crumpling Resistance at High Temperatures (Metodika opredeleniya soprotivleniya smyatiyu pri vysokikh temperaturakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 329-330 (USSR)

ABSTRACT: A method of determining crumpling tensions was developed. It is based upon measuring the stress exercised by a sphere with a diameter of 10 mm which leaves a groove of 0.9 mm diameter. In order to bring this about several grooves were made, and by interpolation the stress corresponding to that of a 0.9 mm diameter was calculated. For this purpose a heatable device was developed (I.N. Bogdanov and A.N. Kolesnikova assisted in constructing the furnace) which essentially consists of a dynamometer to which the pressure stress of a hard-alloyed spherical segment (with 10 mm diameter), which is pressed onto the investigated sample is transmitted by way of a leaf spring. Work can be carried out at temperatures of 20 - 800° C. Investigation results show that at temperatures of 700 - 800° C punching alloys show better crumpling re-

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

A Method of Determining Crumpling Resistance at High Temperatures 32-3-27/51

sistance than punching tool steel. There are 1 figure, 1 table, and 1 reference, 1 of which is Slavic.

AVAILABLE: Library of Congress

1. Steel alloys-Test methods 2. Steel alloys-Test results

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.; TROT'YAKOV, V.P.

Method for studying abrasion at high temperatures. Zav. lab. 24 no.5:625-626 '58. (MIRA 11:6)
(Tool steel—Testing) (Abrasion)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

PHASE I BOOK EXPLOITATION SOV/4375

Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova

Ustalost' metallov; materialy soveshchaniya po ustalosti metallov 22-24 sentyabrya 1958 g. (Fatigue of Metals; Materials of the Conference on Fatigue of Metals, September 22-24, 1958) Moscow, 1960. 157 p. 3,500 copies printed.

Resp. Ed.: I.A. Oding, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: A.N. Chernov; Tech. Ed.: I.N. Dorokhina.

PURPOSE: This collection of articles is intended for mechanical engineers, metallurgists, and scientific research workers.

COVERAGE: The collection contains discussions relating to fatigue failure of metals, fatigue in finished parts, and methods for testing endurance. Included are a critical review of existing theories on metal fatigue, some data on physical regularity patterns, and features of steel failure caused by fatigue. Possibilities for applying a new criterion to the notch sensitivity of metals and high-strength steels are investigated. The mechanism of failure due to corrosion fatigue of metals is discussed along with pertinent experimental data. Also presented are the results of testing the fatigue strength of such metal parts as large-size plates and various parts of machines used in the petroleum industry. Problems involved in testing metals for fatigue are examined. No personalities are mentioned. Each article is accompanied by bibliographic references, most of which are Soviet.

Shevandin, Ye. M. (deceased), N. Ye. Rashetnikova, L.M. Rubinshteyn, and L.F. Khudoshnikova. Some Data on Physical Regularity Patterns of Steel Fatigue Failure 27

Ratner, S.I. Endurance Under Repeated Loading and Resistance to Brittle Failure 34

Oding, I.A., and S. Ye. Gurevich. Criteria of Notch Sensitivity of the Metal Under Cyclic Loading 47

Markovets, M.P. Notch Sensitivity of High-Strength Steels 62

Belyayev, S. Ye. Notch Sensitivity of High-Strength Steels 72

Vedenkin, S.G., and V.S. Sinyavskiy. Mechanism of Corrosion-Fatigue Failure of Metals 80

PROBLEMS OF ENDURANCE-TESTING METHODS

Lebedev, T.A., T.K. Marinets, and A.I. Yefremov. Investigating the Cyclic Strength of Metals by Plotting a Fatigue Diagram 97

Oding, I.A., and S. Ye. Gurevich. Determining the Dependence of the Cyclic Coefficient of the Notch Sensitivity of Metals on the True Stress Concentration Coefficient 106

ENDURANCE TESTING OF PARTS

Kudryavtsev, I.V., and N.M. Savvina. Fatigue Strength of Large Plates 116

Raskin, R.M., and L.V. Bukalova. Fatigue Strength of Roller Chains 129

Raskin, R.M., and R.A. Bagramov. Corrosion-Fatigue Strength of Pump Rods 138

Baranova, N.B. Connection Between the Strength of Materials and of That of the Part Under Effect of Static, Cyclic and Impact Loads 148

Zil'berg, Yu. Ya., and A.P. Begidzhanova. Short-Time Tests for Fatigue of Bimetallic Specimens With Bearing Alloy 155

AVAILABLE: Library of Congress (TA460.A37)

Card 4/4

FK/vrc/mas
11-9-60

MARKOVETS, M.P.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/129/60/000/010/007/009
E073/E335

AUTHOR: Markovets, M.P., Doctor of Technical Sciences, Professor

TITLE: Notch Sensitivity of High-strength Steels

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov. 1960, No. 10, pp. 41 - 46

TEXT: Garwood, Zurburg and Erikson (Ref. 1), Russell and Wilker (Ref. 2) and Oding (Ref. 3) have shown that with increasing strength the notch sensitivity in the case of cyclic loading increases at first, reaching a maximum (at a hardness of 30 to 35 H_{r_c} and then starts to drop. The author of this paper investigated the notch sensitivity of steel containing 0.64 to 0.66% C, 0.78 to 0.85% Mn, 0.22 to 0.30% Mo and 0.24 to 0.28% Si and also of other high-strength steels [30ХГСА (30KhGSA) and 30ХГСНА (30KhGSNA)]. In Fig. 3 the test results for the investigated Soviet steels are plotted which are in good agreement with the results obtained by Garwood, Zurburg and Erikson (Ref. 1) and Russell and Wilker (Ref. 2). The fatigue strength was determined by bending a

Card 1/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/129/60/000/010/007/009
E073/E335

Notch Sensitivity of High-strength Steels

rotating specimen of 7.5 mm dia with a notch of radius 0.75 mm at the root. Soviet as well as non-Soviet results show that there is a complicated dependence between the notch sensitivity and the strength of steel. The author's results lead to the following conclusions: 1) the notch sensitivity of metals subjected to impact, static, or cyclic loading depends on the ratio σ_b/σ_p, where σ_b is the U.T.S. and σ_p the proportionality limit of the material, and on the magnitude of ψ_{ravn} (Abstractor's note: this probably denotes the reduction of area corresponding to σ_p - see Ref. 4); 2) there is a complex relationship between the strength of a metal and its notch sensitivity and the generally held view that the latter is proportional to the former is not correct; 3) notch sensitivity of high strength (U.T.S. equal 160 - 180 kg/mm^2) steels, subjected to cyclic bending, is lower than that of medium-strength (100 - 130 kg/mm^2) materials

Card 2/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/129/60/000/010/007/009
E073/E335

Notch Sensitivity of High-strength Steels

4) the decrease in the notch sensitivity of high-strength steels can be attributed to the presence of residual austenite, which brings about an increase in the magnitude of σ_b/σ_p.

This creates conditions favourable for an increase in the volume of material that can deform plastically in the vicinity of the notch root.

There are 5 figures, 3 tables and 5 references: 3 Soviet and 2 English.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Institute)

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.

Influence of technological factors on the dimensional effect in testing for fatigue and long-period strength. Zav.lab. 26 no.9:1129-1133 '60. (MIRA 13:9)

1. Moskovskiy energeticheskiy institut.
(Strength of materials) (Metals--Fatigue)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/032/61/027/005/011/017
B132/B206

AUTHORS: Markovets, M. P. and Karashchuk, A. F.

TITLE: Comparison of various methods for determining the yield point from the hardness

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 5, 1961, 599-604

TEXT: Four different hardness tests for determining the yield point ($\sigma_{0.2}$) are compared in this study. As testing material the authors used alloyed steels of the perlitic and half-ferritic class, i.e., the following eight types: 20ГСЛ (20GSL), 20ХМФ (20KhMF), 15Х11МФ (15Kh11MF), 34ХМ (34KhM), 1Х13 (1Kh13), ЭИ415 (EI415), ЭИ10 (EI10). These steels are used for steam turbine production. The methods by M. P. Markovets (Zhurnal tekhnicheskoy fiziki, 19, no. 3, (1949)), M. S. Drozd (Zavodskaya laboratoriya, 24, no. 1 and 8 (1958) and 25, no. 5 and 6 (1959)), M. F. Sichikov et al. (Zavodskaya laboratoriya, 13, no. 7 and 13 (1947)), G. P. Zaytsev (Zhurnal tekhnicheskoy fiziki, 19, no. 3 (1949); Zavodskaya laboratoriya, 15, no. 6 (1949) and 16, no. 5 and 11 (1950)) were applied

Card 1/7

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

for the determinations The method by Markovets is based on the pressing-in of small balls with 10 mm diameter up to a residual deformation of 0.2 %. From this value for the hardness ($H_{0.2}$), $\sigma_{0.2}$ may be calculated. In the Drozd method, $\sigma_{0.2}$ is calculated according to $\sigma_{0.2} = 0.185\ H$. In the first case, $H = \frac{9000}{130 - H_{R_B}}$. H_{R_B} is the Rockwell hardness determined with balls of 1/16" at a load of 100 kg. In the second case, H is the Brinell hardness measured at a load of 187.5 kg with balls of 2.5 mm diameter (D). The diameter of the remaining imprint d was determined. H can be determined from the ratio d/D and a table proposed by Drozd. Sichikov used the formula $\sigma_{0.2} = 171\left(\frac{1}{d}\right) - 142$ d is the diameter of the remaining imprint, determined by the Rockwell diamond cone at a load of 150 kg. Zaytsev determined $\sigma_{0.2}$ according to the formula $\sigma_{0.2} = \frac{1}{2} \cdot \sigma_B (4 - n) \cdot 0.8^{\frac{n-2}{2}}$. σ_B is the yield strength, n a coefficient $= \frac{0.60206}{0.30103 - \log(d_5/d_{2.5})}$. $d_{2.5}$ and d_5

Card 2/7

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

are the diameters of the imprints caused by balls with 2.5 and 5 mm diameter. σ_B may be calculated according to the formula $\sigma_B = 0.37a_o$, where $a_o = \frac{P}{D_5^2}\left(\frac{D_5}{d_5}\right)^n$. P is the load on the ball with 5 mm diameter (D_5) for an imprint of d_5. The authors determined the yield point according to the mentioned methods, and compared the values with the results from the elongation test. The elongation tests were made on a fivefold specimen of 10 mm diameter on the machine of the type ИМ-12А (IM-12A). The machine belonged to the TsNIITMASh (Central Scientific Research Institute of Technology and Machine Building). For the steels investigated, the yield points determined according to hardness fluctuated between 30 and 93 kg/mm^2. Only the methods by Markovets (Fig. 1) and the second method by Drozd (Fig. 2b) appear to give satisfactory results. The yield point values determined according to these two methods are close to the values obtained by elongation. The solid straight lines in the diagrams express the mean dependence between the yield points determined by hardness and

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

by elongation. The dotted straight lines show the limits of the 5 % deviation from the mean value. According to Markovets, 93 % fall within these limits, according to Drozd 1 78.7 % to Drozd 2 76.0 %, Sichikov 52 % and Zaytsev 72 %. Accordingly, the maximum deviation from the 45° straight line amounts to ± 7.8 %; + 12 % and - 9 %; + 10.2 % and - 13.2 %; + 18.4 % and - 14.5 %; + 18.8 % and - 13.8 %. Deviations over 10 % do not appear with the Markovets method, with Drozd 1 they appear in one specimen, with Drozd 2 in two specimens, with Sichikov in six specimens and with Zaytsev in eight specimens. The results were statistically evaluated in order to determine the correlation coefficient (Table 3).

Table 3:

Method according to	Correlation coefficient r	Correlation coefficient ρ
Markovets	0.995	0.997
Drozd 1	0.995	0.988
Drozd 2	0.987	0.989
Sichikov et al	0.956	0.969
Zaytsev	0.963	0.966

The methods by Markovets and Drozd proved to be most accurate. Under very

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

exact test conditions, the accuracy of the method by Zaytsev increased too. It must be noted that the determination of the yield point through elongation with other devices (mirror apparatus by Martens, press by Gagarin) produces other values; the yield point also depends on the diameter of the specimen tested. V. S. Ivanova established that the residual deformation at the yield point of long specimens is irregularly distributed. Sections of more or less than 0.2 % could be observed for a mean residual deformation of 0.2 % at the yield point. A critical comparison of the methods showed the following results: The method by Markovets requires carefully pretreated surfaces; treatment must be finished by polishing. The hardened surface developed by mechanical treatment must be removed previous to polishing. In tests according to Markovets, the balls only penetrate to a depth of 0.02 mm, so that this method permits the estimation of the yield point of the surface layer. A special device (Ref. 8: M. P. Markovets and A. F. Karashchuk. Zavodskaya laboratoriya, 27, 5, p. 615 1961) is used for this method. Normal Pockwell and Brinell hardness testers are used for the determination according to Sichikov, Drozd, and Zaytsev. For the first method by Drozd, a carefully treated surface of the test specimen, as well as

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

careful pretreatment of the face placed on the table is required. Removal of the hardened layers is not required for the methods by Sichikov and Zaytsev. There are 4 figures, 3 tables, and 8 Soviet-bloc references.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

Legend to Fig. 1:
x) $\sigma_{0.2}$ in kg/mm^2 determined according to the method by Markovets, y) $\sigma_{0.2}$ in kg/mm^2, determined by elongation test.

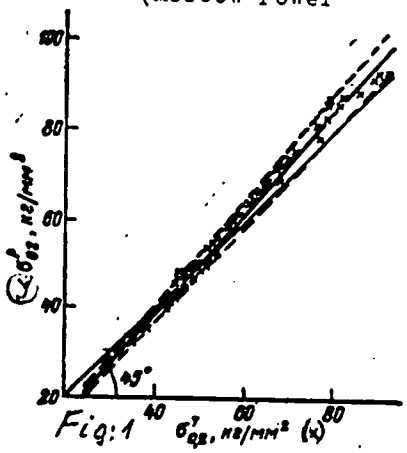


Fig. 1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.; KARASHCHUK, A.F.

Portable instrument for determining the yield strength of tubes based on hardness. Zav.lab. 27 no.5:615-616 '61. (MIRA 14:5)

1. Moskovskiy energeticheskiy institut.
(Creep of metals)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/032/61/027/011/013/016
B104/B138

AUTHOR: Markovets, M. P.

TITLE: Determination of ductility characteristics of engineering steels from their hardness

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 11, 1961, 1395 - 1400

TEXT: The author developed methods of determining transverse contraction and elongation in tension from Brinell hardness tests. Tensile and hardness tests were carried out on a number of heat-treated steel types (10, 20, 45, 20X (20Kh), 12XH3A (12KhN3A), 30XГCA (30KhGSA), and 30XГCHA (30KhGSNA)) of a strength ranging from 44 to 188 kg/cm^2. The hardness numbers are plotted as functions of the deformation in the indentation. These curves have a clear maximum. As shown by N. N. Monakhov (Trudy Instituta inzhenerov zheleznodorozhnogo transporta, no. 131, pp. 218-229, Stroitel'naya Mekhanika (1961)) a close relationship exists between the deformation corresponding to the hardness maximum and the transverse contraction in a tensile test. This is plotted against Brinell hardness in Fig. 3. A definite relationship can be seen. Transverse contraction can be determined from Brinell hardness with an accuracy of 10%. The relations $\psi = 0.5 + \psi_t$ and $\delta_t = \psi_t/(1 - \psi_t)$ are derived for the determination of

Card 1/2

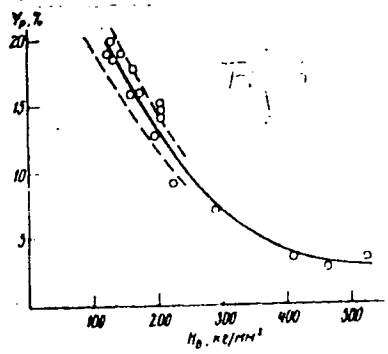
APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

transverse contraction and elongation in tension from Brinell hardness. ψ denotes transverse contraction, ψ_t the transverse contraction in tension determined from hardness numbers. For steels with $\psi < 50\%$, the deviation of the two ψ-values is less than 20%. The deviation is less than 10% in 70% of all the steels investigated. There are 4 figures, 2 tables, and 6 references: 5 Soviet and 1 non-Soviet.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

Fig. 3: Brinell hardness against transverse contraction in tensile testing.



APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P., doktor tekhn.nauk, prof.

Strength of bolts with a run-out and recess of threads. Vest. mash. 41 no. 5:46-48 My '61. (MIRA 14:5)

(Bolts and nuts)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

ODING, Ivan Avgustovich; MARKOVETS, M.P., doktor tekhn. nauk, prof., retsenzent; ARONOVICH, M.S., kand.tekhn.nauk, red.; MERENSKAYA, I.Ya., red. izd-va; UVAROVA, A.F., tekhn. red.

[Permissible stresses in the manufacture of machinery and cyclic strength of metals] Dopuskaemye napriazheniia v mashinostroenii i tsiklicheskaia prochnost' metallov. Izd.4. ispr.i dop. Moskva, Mashgiz, 1962. 259 p. (MIRA 15:7)

1. Chlen-korrespondent Akademii nauk SSSR (for Oding).
(Strength of materials) (Machinery--Construction)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.

Soveshchaniye po ustalosti metallov. [illegible], Moscow, [illegible].

Tsiklicheskaya prochnost' [illegible] po ustalosti metallov, [illegible] Strength; Materials of [illegible] Metals, held May [illegible], Ind-vo [illegible], 338 p. Errata slip inserted. [illegible] copies printed.

Resp. Ed.: I. A. Oding, Corresponding [illegible] of the Academy of Sciences of the USSR; Ed. of Publi[illegible] House: A. [illegible]; Tech. Ed.: A. P. Gorova.

PURPOSE: This collection of articles is intended for scientific research workers and [illegible].

COVERAGE: The collection contains [illegible] at the second confer[illegible] at the Institute of [illegible] with the nature of fatigue [illegible]

Card 1/[illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

and growth of fatigue cracks, the role of plastic deformation in fatigue fracture, an accelerated method of determining fatigue strength, the plotting of fatigue diagrams, and various fatigue test methods. New data are presented on the sensitivity of high-strength steel to stress concentration, the effect of stress concentration on the criterion of fatigue failure, the effect of the size factor on the strength of metal under cyclic loads, and results of endurance tests of various machine parts. Problems connected with cyclic metal toughness, internal friction, and the effect of corrosion media and temperature on the fatigue strength of metals are also discussed. No personalities are mentioned. Each article is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

NATURE OF FATIGUE FRACTURE

Oding, I. A. Diffusionless Mechanism of Formation and Growth of a Fatigue Crack 3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

EFFECT OF THE STRESS CONCENTRATION AND THE SIZE FACTOR ON THE FATIGUE STRENGTH

Oding, I. A., and S. Ye. Gurevich. Notch Sensitivity of High-Strength Steels Under Cyclic Load 169

Oleynik, N. V., and I. S. Mezentsev. Effect of Stress Concentration on Characteristics of the Summation of Fatigue Damage 177

Glikman, L. A., and Ye. N. Kostrov. Effect of the Size Factor on Resistance of Metals to Corrosion Fatigue 187

Markovets, M. P. Technological Theory of the Size Factor in Fatigue Tests 199

CYCLIC TOUGHNESS AND INTERNAL FRICTION

Postnikov, V. S. Internal Friction and Strength 207

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/277/63/000/001/015/017
A052/A126

AUTHOR: Markovets, M. P.

TITLE: Technological theory of size factor in fatigue tests

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, 48. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin, no. 1, 1963, 30, abstract 1.48.218 (In collection: "Tsiklich. prochnost' metallov." M., AN SSSR, 1962, 199 - 206)

TEXT: To explain the size factor in fatigue tests the technological theory proposed by I. A. Oding is discussed. General considerations are presented on the effect of various degrees of finish, various depths of work-hardened layer and different internal stresses produced in the process of machining on the strength of elements and samples depending on their size. It is pointed out that in the cases when work hardening reduces the strength of metal large samples will be stronger than the small ones; when work hardening raises the strength, small samples will be stronger than the large ones. When the diameter of a sample increases the theoretical coefficient of stress concentra-

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

Technological theory of size factor in fatigue tests S/277/63/000/001/015/017
A052/A126

tion increases, too, which causes a decrease of fatigue strength. Internal stresses appearing on the surface will always be higher on large samples.

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.

Equation for fatigue diagram. Zav.lab. 28 no.1:87-91 '62. (MIRA 15:2)

1. Moskovskiy energeticheskiy institut.
(Metals--Fatigue)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/032/62/028/012/019/023
B104/B186

AUTHORS: Markovets, M. P., and Karashchuk, A. F.

TITLE: Portable device with electromagnetic fastening for the non-destructive determination of the yield point

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 12, 1962, 1520-1521

TEXT: A device for determining the 0.2% elastic limit by ball-indent testing is described. In similar fashion to determining the Brinell hardness, the load $P_{0.2}$ on a 10 mm or on a 2.5 mm steel sphere that constantly produces an indent of 0.9 mm or 0.8 mm diameter is determined. The appliance (Fig. 2) consists of a load-applying mechanism, a load meter, and an electromagnetic table with a rectifier. The load is applied with a hand lever, a needle indicates the load, and the width of the indent is measured with an attached microscope. The load attachment and the microscope are so turned on a vertical axis that when the test piece is under load the microscope is exactly above the indent. This device makes it possible to test small parts in laboratories or large parts in workshops.

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

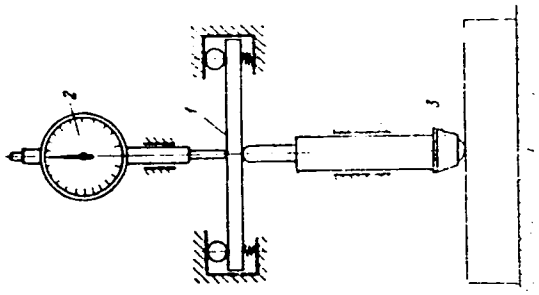
"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/032/62/028/012/014/022
B104/B186

Portable device with electromagnetic...

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

Fig. 2. Diagram of load-applying mechanism and load meter. Legend: (1) spring blade, (2) load meter, (3) head with testing sphere.



Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

ACCESSION NR: AP3003446 S/0129/63/000/007/0026/0027

AUTHOR: Markovets, M. P.; Stepanov, G. A.

TITLE: Critical degree of deformation of KhN70VMYuT (EI765) alloy

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 7, 1963, 26-27

TOPIC TAGS: nickel alloys, work hardening, rupture life, rupture strength, effect of cold working, grain growth, nonuniform grain size

ABSTRACT: The effect of work hardening on the rupture life of KhN70VMYuT nickel-base alloy (0.11% C; 14.6% Cr; 1.22% Ti; 1.85% Al; 5.05% W; 4.17% Mo) has been studied. Prior to cold working the alloy was annealed at 1150C for 3 hr, oil-quenched, and then aged at 800C for 20 hr. In this condition the alloy had a tensile strength of 113 kg/mm^2, yield strength of 73 kg/mm^2, elongation of 25%, reduction of area of 26%, notch toughness of 9.2 kg-m/cm^2,

Card 1/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

ACCESSION NR: AP3003446

and H_B of 285. The specimens were then prestretched to reduction of area of 2, 5, 8, 14, 18, or 20% at room temperature at a rate of 2 mm/min and subjected to stress-rupture tests at 715C under a constant stress of 30.5 kg/mm^2, the stress corresponding to a rupture life of 1500 hr (for conventionally heat-treated alloy) selected as the maximum test duration. It was found that cold working greatly shortens the rupture life. As the reductions increased, the rupture life dropped sharply and reached a minimum at a critical degree (8% reduction) of plastic deformation; a further increase of reduction to 16% somewhat prolongs the rupture life, but beyond this it again drops sharply. Microscopic examination of the fracture zone of specimens subjected to various degrees of plastic deformation shows that the most intensive, and nonuniform grain growth occurred at a reduction of 8%. It is concluded that critical degrees of plastic deformation should be avoided when making parts designed to operate at or near 715C. Orig. art. has: 2 figures.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

Card 2/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

ACCESSION NR: AP3003446

SUBMITTED: 00 DATE ACQ: 02Aug63 ENCL: 00

SUB CODE: 00 NO REF SOV: 005 OTHER: 000

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P., doktor tekhn. nauk, prof.; STEPANOV, G.A., inzh.

Study of the heat resistance of pins with rolled-on threads.
Teploenergetika 10 no.10:42-45 O'63 (MIRA 17:7)

1. Moskovskiy energeticheskiy institut.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

S/032/63/029/003/014/020
B101/B186

AUTHORS: Markovets, M. P., and Stepanov, G. A.

TITLE: The problem of the influence of the dimensions of a specimen and of the cutting conditions on the long-life strength

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 3, 1963, 356-357

TEXT: The long-life strength of a ЭИ 765 (EI765) nickel-chromium alloy was investigated (0.11% C, 0.23% Si, 0.29% Mn, 0.005% S, 0.008% P, 14.6%Cr, 0.55% Fe, 1.22% Ti, 1.85% Al, 5.05% W, 4.17% Mo). Samples of 5 and 10 mm diameter were hardened in oil at 1150°C for 3 hrs and aged at 800°C for 20 hrs, whereupon the specimens showed the mechanical properties: σ_B = 113 kg/mm^2, $\sigma_{0.2}$ = 73 kg/mm^2; δ_5 = 25%; ψ = 26%; a_n = 9.2 kgm/cm^2, Brinell hardness 285. The long-life strength was tested at 715°C, the maximum time being 4400 hrs. It was found that in the cutting process on a lathe the turning conditions, especially the feed rate S(mm per revolution), have an influence on the long-life strength:

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

Diameter, mm	S, mm/rev	limit of long-life strength $\sigma \cdot 10^4$, kg/mm^2	$\sigma \cdot 10^5$, kg/mm^2
5	0.2	18.0	13.0
5	0.6	22.0	15.5
10	0.2	22.0	15.5
10	0.6	22.0	15.5

From these data it follows that the cutting conditions exert less influence on the long-life strength of specimens with a diameter of 10 mm than on specimens with 5 mm diameter. There is 1 table.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.; STEPANOV, G.A.

Critical stage of deformation of the KhN70VMIUT (EI765) alloy. Metalloved. i term. obr. met. no.7:26-27 Jl '63. (MIRA 16:7)

1. Moskovskiy energeticheskiy institut.
(Nickel-chromium-tungsten alloys—Hardening)
(Deformations (Mechanics))

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.

Method for determining plasticity characteristics without the use of samples. Zav.lab. 29 no.8:978-980 '63. (MIRA 16:9)

1. Moskovskiy energeticheskiy institut.
(Materials--Testing) (Plasticity)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P.; STEPANOV, G.A.

Effect of irregular peening in the creep testing of pipes. Zav.lab. 30 no.3:348-349 '64. (MIRA 17:4)

1. Moskovskiy energeticheskiy institut.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVETS, M.P., doktor tekhn. nauk, prof.; PASHNINA, V.I., aspirant; PIKSIN, Yu.I., aspirant

Impression and tension diagrams in the area of elastic and minor plastic deformations. Izv. vys. ucheb. zav.; mashinostr. no.2:94-98 '65. (MIRA 18:5)

1. Moskovskiy energeticheskiy institut.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

L 07918-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6017499 SOURCE CODE: UR/0137/66/000/001/T106/T106

33
29
B

AUTHOR: Markovets, M. P.; Pashnina, V. I.

TITLE: Determining the ~~elastic limit~~ elasticity limit

SOURCE: Ref. zh. Metallurgiya, Abs. 11738

REF SOURCE: Tr. Mosk. in-ta stali i splavov i Mosk. energ. in-ta, vyp. 61, ch. 2, 1965, 201-208

TOPIC TAGS: elastic stress, elastic deformation, alloy steel

ABSTRACT: The authors consider the basic existing methods for determining the elastic limit in terms of their complexity and the requirements for special tensile testing machines and strain gauges. The simplest of these is the method proposed by Zaytsev based on indentation by a sphere. However, this method has a number of disadvantages and does not give stable results. A simpler method is proposed for determining the elastic limit from indentation of the material being tested by a sphere. The method is based on finding the inflection point of the ln P-ln d curve which corresponds to the elastic limit assuming a residual deformation of 0.001% (P is the load and d is the diameter of the impression). Experimental ln P-ln d diagrams are plotted for a number of types of steel for which two inflection points are observed correspond-

Card 1/2

UDC: 669.01;620.173

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

L 0798-67

ACC NR: AR6017499

4

ing to small plastic deformations and to deformations over the entire surface. The first point corresponds to the elastic limit. The experimental formula $\sigma_{eq} = 0.636\ P/d^2$ is proposed for calculations. A comparison of elastic limits determined by the indentation method and the tensile method for grades 30, 30KhGSA, EP-182 and 2Kh13 steel proved the applicability of the proposed method for practical purposes. Bibliography of 8 titles. V. Sinev. [Translation of abstract]

SUB CODE: 11

Card 2/2 vmb

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

L 07808-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6017498 SOURCE CODE: UR/0137/66/000/001/I106/I106

AUTHOR: Markovets, M. P.; Piksin, Yu. I.; Pashnina, V. I.

TITLE: Investigation of the possibility for determining yield stress at high temperatures without a standard specimen

SOURCE: Ref. zh. Metallurgiya, Abs. 11I37

REF SOURCE: Tr. Mosk, in-ta stali i splavov i Mosk. energ. in-ta, vyp. 61, 1965, 225-227

TOPIC TAGS: yield stress, hardness, tensile stress, alloy steel

ABSTRACT: Linear relationships are found between the tensile yield stress $\sigma_{0.2}$ and hardness at the yield point $H_{0.2}$ in tests of Kh18N10T steel at 30 and 350°C. This linear relationship may be used to extend the room-temperature ratio between $\sigma_{0.2}$ and $H_{0.2}$ to high temperatures. The quantity $H_{0.2}$ is determined by indentation of a 10-mm ball until an impression 0.9 mm in diameter is formed. (From RZhMekh.) [Translation of abstract]

SUB CODE: 11

Card 1/1 mc

UDC: 669.01:620.172

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

L 11[illegible]-67 [illegible]/[illegible](k)/[illegible](w)/[illegible](t)/[illegible]
ACC NR: AR6023315 SOURCE CODE: [illegible]/[illegible]/66/000/003/[illegible]

AUTHOR: [illegible], M. P., [illegible], [illegible], [illegible], [illegible]

TITLE: Use of the tension method for [illegible] at high temperatures

SOURCE: Ref. [illegible] Mashinostr mat [illegible]

REF SOURCE: Tr. Mosk. in-ta [illegible] v I Mosk. energ. in-ta, vyp. [illegible], 1965, 221-224

TOPIC TAGS: yield stress, tensile strength

ABSTRACT: Experiments are conducted to refine the relationship between [illegible] points obtained at 30 and 350°C on bars and [illegible] made of [illegible] steel. [illegible] tion $\sigma_{0.2}^{350}=0.872\cdot\sigma_{0.2}^{20}-3.0$ was derived where $\sigma_{0.2}^{350}$ and $\sigma_{0.2}^{20}$ are the yield points at [illegible] and 20°C. The maximum error in this case is 3%. It is recommended that studies in this direction should be increased. [Translation of abstract]

SUB CODE: 11

Card 1/1 jb UDC: 669.14.018:539.4

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVIC, A.

TECHNOLOGY

MARKOVIC, A. Effective increasing of radio modulations. p. 216; Ultra short-wave receiver and transmitter for the 72/144/435 MHz amateur. (To be contd.) p. 220; Fundamentals of electronics. p. 2[illegible]; Electron tubes. p. 224; M. L. Small receivers. p. 227.

Vol. 11, no. 7/8, July/Aug. 1957

Monthly List of East European Accessions (EEAI) LC, Vol. [illegible], no. 3 March 1958, Unclassified

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

YUGOSLAVIA

Prof Dr [illegible] [illegible] [illegible] [illegible]

[illegible] Vaccinas."

[illegible] Vjesnik, Vol [illegible] No [illegible] pp [illegible]

Abstract: A [illegible] review of subject, concentrating mainly on [illegible] complications, need for and usefulness of [illegible] and [illegible] [illegible] Yugoslav and [illegible] Western [illegible] [illegible] bee [illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

RASOVIC, Ljubomir; MARKOVIC, Aleksandar; BALJOZOVIC, Aleksandar; DRAGICEVIC, Branislav; ~~NEDELJKOVIC, Dragas~~

Local treatment of burns. Srpski arh. celok. lek. 88 no.9:845-852 S '60.

1. II Hirurska klinika Medicinskog fakulteta Univerziteta u Beogradu. Upravnik: prof. dr Vojislav K. Stojanovic. 2. Clan Uredivackog odbora, "Srpski arhiv za celokupno lekarstvo"

(BURNS ther)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

STOJANOVIC, V.; JOSIPOVIC, V.; MARKOVIC, A.; NEDELJKOVIC, D.; ANOJCIC, S.; PROKIC, D.

Dry heart surgery at a normal temperature without extracorporeal circulation. Acta chir. Iugosl. 9 no.1:17-25 '61.

1. II hirurska klinika (Upravnik prof. dr V.K.Stojanovic) i Interna klinika "B" (Upravnik prof. dr R. Berovic) Medicinskog fakulteta u Beogradu.

(HEART SURGERY)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

RASOVIC, Ljubomir; MARKOVIC, Aleksandar

Perforating injury of the heart with retention of a projectile in the right ventricle. Srpski arh. celok. lek. 89 no.2:131-137 F '61.

1. II hirurska klinika Medicinskog fakulteta Univerziteta u Beogradu. Upravnik: prof. dr Vojislav K. Stojanovic. 2. Clan Uredivackog odbora, "Srpski arhiv za celokupno lekarstvo" (for Rasovic).

(HEART for body) (WOUNDS GUNSHOT)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVIC, B.

"A contribution to the knowledge of Metritis during pregnancy in the cow." Iz Klinike Za Porodiljstvo, Vet. Fac. U. of Belgrade.

Vet: Glasnik 6 : 46-51, Jan. 1952

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

Markovic, B.

YUGOSLAVIA / Farm Animals. Small Horned Stock. U-3

Abs Jour : Ref Zhur - Biologiya, No 16, 1957, No 72064

Author : Markovic, B.
Title : Several Findings on the Preservation and Freezing of Ram Sperm Fluid.

Orig Pub : Veterinaria (Jugosl), 1956, 5, No 2-3, 396-398

Abstract : In test with frozen ram semen, the thawing yielded 60 percent of live spermatozoa, when arabinose was used in the diluent. Glucose too had a favorable effect on the viability of the frozen semen.

Card : 1/1 - 12 -

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVIC, B.

SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: /not given/

Affiliation:

Source: Belgrade, Veterinarski glasnik, No 7, 1961, pp 595-599.

Data: "Contribution to the Therapy with "Lotagen" of Puerperal Diseases and Chronic Endometritis in Cattle."

Authors:

MARKOVIC, B., Clinic for Obstetrics of the Faculty of Veterinary Medicine (Klinika za porodiljstvo Veterinarskog fakulteta), Belgrad
GRUS, I., Veterinary Station (Veterinarska stanica), Dobanovci

1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVIC, D.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

MARKOVIC, B.

(5)

Belgrade, Veterinarski Glasnik, Vol 11, No 11, 1961 (cont.)

11. "Bases and Criteria for Setting the Level of Personal Income of Veterinary Specialist on Large Agricultural Farms" S. [illegible]; pp [illegible].

12. "Our Experiences With Breakage of Rivettes in the Bladder and Urethra of Cows [illegible] Artificial Insemination" J. [illegible] and [illegible] (Klinika za porodljstvo) Veterinary [illegible] Belgrade; pp [illegible] (English summary)

13. "Our Experiences in the Treatment and Prevention of Infectious Lameness of Sheep" [illegible]; pp [illegible].

1-Institut za Mikrobiologiju Veterinarskog fakulteta.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

YUGOSLAVIA

Lj. KOZIC, B. MARKOVIC, N. KNEZEVIC and M. BOJINOVIC, Department of Animal Breeding and Health, Institute for Preventive Veterinary Medicine (Odeljenje za gajenje i zdravstvenu zastitu zivine, Institut za preventivnu veterinarsku medicinu), Belgrade.

"Infectious Sinusitis (Chronic Respiratory Disease) in Turkeys."

Belgrade, Veterinarski Glasnik, Vol 17, No 2, 1962; pp 145-148.

Abstract [English summary modified]: Description of outbreak involving 140 birds in turkey farm housing 400 domestic and 400 American Bronze turkeys. Mortality below 5%. Clinical, pathological and serologic as well as microbiologic (Mycoplasma sp. gron after 5 days' incubation on Edwards medium) confirmation of this as first Yugoslav outbreak of CRD, attributed to contaminated eggs in imported batch from US. Five US and 1 German reference.

1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1

YUGOSLAVIA

Lj. KOZIC, N. KNEZEVIC, B. MARKOVIC and B. NIKOLIC [Affiliation as above]

"Turkey Salmonellosis on a Farm."

Belgrade, Veterinarski Glasnik, Vol 17, No 2, 1963; pp 149-151.

Abstract : Severe outbreak of Salmonella gallinarum infection on large turkey farm, 28% mortality. Streptomycin i.m., change of quarters (birds had been overcrowded to 5 per square meter) and of feed arrested epizootic but flock had to be slaughtered. Only possible source of infection was concluded to be fish meal imported from South America. Two Western, 1 Czech and 1 Yugoslav reference.

1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510017-1"