"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

a

K

[illegible]-K. Determination of the Suitability of Low-Carbon Steels for Fusion Welding. (In Czech.) Frantisek Poberil and Frantisek Sicha. Hutnické Listy, v. 5, Jan. 1950, p. 5-9; Feb. 1950, p. 57-61; Mar. 1950, p. 101-105.

On the basis of experimental evidence showing that in fusion welding, a sudden cooling down of certain low-carbon steels from temperatures in the vicinity of the Ac point results in a brittle zone in the transition range, a fusion-weldability test for steels was suggested. It consists in the quenching of a rough-machined impact-test specimen from a temperature just below the Ac point, artificial aging at 100° C. for two hours, and determination of impact strength at the normal temperature. (K9, CN)

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

OPEN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

1ST AND 2ND LETTER

3RD AND 4TH ORDERS

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

7

B

Determination of the Suitability of Low-Carbon Steels for Fusion Welding. (In Czech.) František Poboril and František Sícha. *Hutnické Listy*, v. 5, Jan. 1950, p. 5-9; Feb. 1950, p. 57-61; Mar. 1950, p. 101-105.

On the basis of experimental evidence showing that in fusion welding, a sudden cooling down of certain low-carbon steels from temperatures in the vicinity of the Ac_1 point results in a brittle zone in the transition range, a fusion-weldability test for steels was suggested. It consists in the quenching of a rough-machined impact-test specimen from a temperature just below the Ac_1 point, artificial aging at 100°C. for two hours, and determination of impact strength at the normal temperature. Includes tables and micrographs.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

9

CA

Suitability testing of low-carbon steels for fuse-welding.
František Polodil and František Sicha (Ostrava, Czech.). *Hutnické Listy* 5, 5-9, 57-61, 101-4 (English summary, 105) (1950).—After a brief review on testing the weldability of steel, P. and S. describe a new test, mainly suitable for use with C and low-alloy steels classified as not suitable for hardening. Particular attention is paid to the phenomena occurring in the transition section of the welded specimen. For the tests carried out information is given on the compn., dimensions, hardness, and heat treatment of the specimens, and on the locations on the sheet from which the specimens were taken. The results obtained show that, in the case of low carbon steels with a tendency to brittleness, rapid cooling starting at a temp. near the Ac_1 point is responsible for the brittleness of the transition zone near the weld. Another method, worked out from expts. on the "critical" temp. directly below the Ac_1 point and the influence of aging, consists of quenching the rough, machined impact test specimen in water at a temp. directly below the Ac_1 point, artificial aging of the finished, machined specimen at 100° for 2 hrs., and detn. of the impact resistance at room temp. The steel is classified as weldable if the impact resistance of all 3 specimens is equal or larger than 3 kg./sq. cm. The test results are compiled in 19 tables and plotted on graphs. The results of regenerative heat treatment of artificially aged specimens is shown on microphotographs. Eugene Gros

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

B

8

8847* A Study of Natural Aging and the Application of Tests for Weldability of Steels. (In Czech.) Frantisek Poboril and Frantisek Sicha. *Hutnicke Listy*, v. 6, Apr. 1951, p. 158-165.

By long-time tests of natural aging of low-carbon steels quenched in water from just below the Ac_1 point, the existence of precipitation hardening was demonstrated. Other tests were made on natural aging following cold deformation. This process resulted in only a small increase in hardness. Statistical evaluation of results of comparative tests on weldability of 125 low-carbon steels showed that aging after thermal treatment and after cold deformation give fundamentally different results for a number of steels. Tables and graphs.

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E073/E335

AUTHORS: Pawera, Karel, Engineer, Pilous, Václav, Candidate of Technical Sciences, Engineer and Pobořil, František, Engineer Doctor

TITLE: Microstructure and Mechanical Properties of Weld Joints Between Austenitic and Pearlitic Creep-resistant Steels for Boilers Operating at High Pressures and Temperatures

PERIODICAL: Hutnické listy, 1961, No. 3, pp. 186 - 197

TEXT: In thermal power stations with high operating steam temperatures and pressures austenitic steels have to be used for the hottest sections of the superheater and the high-pressure boiler whilst less thermally stressed sections can be made from cheaper ferritic-pearlitic steels. In 1959 the problem of producing satisfactory weld joints between these two types of steel became acute. Since at the time a satisfactory weld joint between ferritic-pearlitic and austenitic steels was not available, it was decided to verify the possibility of using a welding technology developed in the

Card 1/15

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

Z/034/61/000/003/004/011
E073/E335

Microstructure and Mechanical ...

Vyzkumný a zkusebný ústav, Závody V.I. Lenina v Plzni (Research and Test Institute of the V.I. Lenin Works, Pilsen).
In the first part of the paper results published in the literature are reviewed: work is mentioned of A.S. Gel'man and V.S. Popov (Ref. 2), J.T. Tucker, Jr. and F. Eberle (Ref. 3), F. Erdmann-Jesnitzer, M. Beckert and H. Schmiedel (Ref. 4), B. Löfblad and E. Lindh (Ref. 5) and H. Linden and H. Henneke (Ref. 6) and information published by the International Nickel Company (Ref. 8) and also work by A.F. Kožajev, A.V. Sibanov (Ref. 9), L. Jenícek (Ref. 10), Z. Eminger, J. Krumpos (Ref. 11) and P. de Marneffe of France (Ref. 13) as well as earlier work of one of the authors (Ref. 1). Practical experience has shown that during heat-treatment and also when the material is held over long periods at the operating temperatures, a decarburised zone, a few tenths of a mm wide, forms in the transient zone in the ferritic-pearlitic steels, whilst in the strip which is directly adjacent to the austenitic weld metal a thin carburised zone forms. This behaviour is attributed to the

Card 2/15

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

differing solubility of carbon and the α and γ phases. For weld joints between ferritic-pearlitic and austenitic material which are exposed to high alternating thermal stresses under load, the Lenin (Škoda) Works make the weld using the material VZÚ 60, which contains 60% Ni and 50% Cr; the coefficient of thermal expansion of this material has a value which is intermediate between that of ferritic-pearlitic and that of austenitic steels (Fig. 3). The solubility of carbon in this material, which contains predominantly Ni, is very low and therefore it forms an effective barrier against carbon diffusion. Compared with similar fabricated electrodes produced by Messrs. Wiggin in Great Britain, the Czech-produced electrodes are cast rods, which are considerably cheaper. The V.I. Lenin Works have developed a reliable process for manufacturing such welded rods; the only scrap is that caused by the gatings, amounting to 25-30% of the charge weight. After casting, the rods are sand-blasted and cold-forged on a rotary forging machine TOS R 16 to a diameter of 3.5 mm. These electrodes are used for argon-arc welding of high-alloy alloys

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

operating at temperatures up to 700 °C. The welding metal has the most favourable mechanical and physical properties after hardening at 750 °C (250 H_V, impact strength up to 10 mkg/cm^2). The hardness of the welding metal after welding is 160 H_V with an impact strength of 9 mkg/cm^2. The mechanical properties of this metal are given in Table 1. The proneness to temper brittleness was investigated at the temperatures of 600, 650 and 700 °C for 1 000 hours; the impact strength does not change appreciably by the ageing and a drop by about 20% was detected only after cooling to 20 °C, which is attributed to the fact that the weld metal was perfectly hardened. The experiments were made on welds joining tubes of a diameter of 32 x 5 mm of the steel ČSN 15225 (Lof special extra) with tubes of equal dimensions of the steel ČSN 17481 (MnCrTi 17/7). The composition (in %) of these steels is as follows:
ČSN 15225 - 0.10-0.15 C, 0.45-0.65 Mn, 0.15-0.25 Si, 0.40-0.50 Cr, 0.90-1.00 Mo, 0.20-0.35 V, max 0.045 P and max. 0.045 S;

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

ČSN 17481 - 0.05-0.12 C, 17.0-19.0 Mn, max. 0.70 Si, 7.0-8.0 Cr, 0.30-0.60 Ti, max. 0.040 P and max. 0.035 S. The following combinations of weld joints and heat-treatment were used in the experiments:

Type of weld seam	Base Material	Weld Seam	Heat treatment (after welding)
A	15225/17481	VZÚ 60	a) 980°C/0.5 h/air 680°C/1 h/air b) 680°C/2 h/air c) without heat treatment
B	15225/15225	VZÚ 60	a) 980°C/0.5 h/air 680°C/1 h/air
C	17481/17481	VZÚ 60	a) 980°C/0.5 h/air 680°C/1 h/air
C1	17481/17481	"C"	d)1000°C/0.5 h/air.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

The purpose of the combinations B and C was to determine the additional influence of the base materials 15225 and 17481 on the properties of the welding material VZÚ 60; the purpose of the combination C1 was to evaluate the stability of the weld of the austenitic tubes from the steel 17481 welded by the argon-arc method, using the material "C" (MnCrMo(Nb) 17/7) in accordance with the technology worked out by J. Novotný (Refs.16,17) at the Vyzkumný ústav svářečský (Welding Research Institute). The heat-treatment a) corresponds to that normally specified for the steel ČSN 15225; b) to that specified for erection weld seams of the steel ČSN 15225; d) corresponds to the heat-treatment specified for welds of the steel ČSN 17481. In contrast to the technology of argon-arc welding of uniform materials, where it is advantageous to fuse the root of the weld without additional material, it is in this case necessary to deposit material from the VZÚ 60 electrode also into the root, so as to prevent diffusion of carbon from the ferritic-pearlitic into the austenitic material. The results of X-ray tests with an oblique beam through two walls did not prove satisfactory

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

Z/034/61/000/003/004/011
E073/E335

Microstructural and Mechanical ...

from the point of view of giving a reliable indication of the quality of the weld seam and should not be used for quality control. Therefore, the authors considered using an X-ray beam in two mutually perpendicular planes. In the bending tests (of A, B, C) bending angles between 38 and 73° were achieved before the first crack occurred and in two cases bending angles of 120 and 135° were achieved without any crack. These results show that the weld joint has a satisfactory plasticity. Bending tests on the tubes welded with the electrodes "C" showed good results; bending angles of 180° were achieved without fracture. In tensile tests at 20 °C, yield-point values of 30 - 41.4 kg/mm^2 were achieved, with strength values of 45.7 - 59.5 kg/mm^2 and contraction of 10.4 - 14.7%. The fractures always occurred in the weld metal VZÚ 60 which, at this temperature, has a lower strength than both the base materials; the mechanical properties are fully in accordance with the respective values for the cast alloy VZÚ 60. Tensile tests at 575 °C showed yield-point values of 13.2 - 18.9 kg/mm^2, strength values of 27.4 - 35.5kg/mm^2

Card 7/15

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

and an elongation of 15.3 - 22.7%; fractures almost always occurred in the austenite and the results correspond with the appropriate values for the material ČSN 17481 at that temperature. The results of metallographic tests confirm that the alloy VZÚ 60 is suitable for welding ferritic-pearlitic steels with austenitic steels; the coefficient of thermal expansion of this alloy has a value which is intermediate between the respective values of the two materials. Due to its high nickel content, diffusion of carbon from the ferritic-pearlitic into the austenitic steel is prevented. The results of creep-rupture tests for specimens of the dimensions as shown in Fig. 13 (tube diameter 32 x 5 mm) are plotted in Fig. 14. It can be seen that the results roughly correspond to a straight line representing average values for the material 15225. The method of heat-treatment of the joints had practically no influence on the results. The fractures always occurred in the transition zone of the base material 15225. Compared with the respective values currently assumed for these materials, the strength under creep conditions of the

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

transient zone of the material 15225 was somewhat lower and that of the material 17481 was somewhat higher. In 3-month corrosion tests the corrosion speed of both base materials was about 0.7 - 1.7 g/m^{2}day, corresponding approximately to 0.03 - 0.09 mm/year. In no case was an intensive or local corrosion attack detected in the weld; neither the material "C" nor the material VZÚ 60 showed signs of having been attacked by corrosion in a power-station condensate which was saturated at 20 °C with oxygen and carbon dioxide. Acknowledgments are expressed to Duchek (VZÚ-ZVIL) and Pajůrka (VŽKG), who made the experimental weld joints, Engineer Toman and Engineer Šeděnko (VZKG) and Tykal (VÚHZ), who carried out the metallographic analyses, Baier (VŽKG) and Franc (VÚHŽ), for carrying out the mechanical and creep tests, Engineer Švořep (SVÚOM) for carrying out the corrosion tests and also to Engineer Huber (VŽKG) There are 14 figures, 7 tables and 20 references: 6 Czech and 14 non-Czech.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

Z/034/61/000/003/004/011
E073/E335

Microstructural and Mechanical ...

ASSOCIATIONS: VŽKG, Ostrava (K. Pawera)
VZŮ ZVIL, Pilsen (V. Pilous)
VUHZ, Prague (F. Pobořil)

SUBMITTED: November 14, 1960

Card 10/15

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

Table 1:

Temperature, °C	Heat Treatment	Yield point, kg/mm²	Strength, kg/mm²	Elongation (5d), %	Contraction, %	Impact Strength, mkg/cm²
20	No heat-treatment	23.2	44.4	25	25	9
20	HARDENED 750°C/10 h/air	33.4	55.6	20	20	7
500		17.2	34.4	26	28	9
550		16.5	32.4	27	28	9
600		15.5	30.2	27	28	9
650		14.5	29.6	24	27	9
700		13.2	28.4	22	26	9

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

Table 2:

	C	Mn	Si	P	S	Cr	Ni	Ti	Fe	W	Mo	Al
Specified composition	max. 0.10	max. 0.30	max. 0.80	-	-	max. 19.0	rest	max. 1.50	max. 15.0	max. 5.0	max. 0.80	
Composition of high-frequency heat No. 479	0.06	0.21	0.47	0.009	0.026	18.05	64.15	1.22	10.94	2.10	2.19	0.47

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

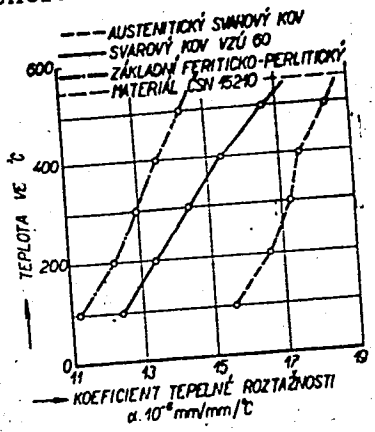
Z/034/61/000/003/004/011
E073/E335

Microstructural and Mechanical ...

Fig. 3: Coefficient of thermal expansion of austenitic electrode material E 391, the weld alloy VZÚ 60 and of the base ferrite-pearlite material CSN 15210 in the temperature range 100 to 550 °C.

Temperature, °C versus coefficient of thermal expansion, $\alpha \times 10^{-6}$ mm/mm/°C.

---- Austenitic weld metal
—— Welding alloy VZÚ 60
—·— Base ferrite-pearlite
— — — Material CSN 15210



Card 13/15

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

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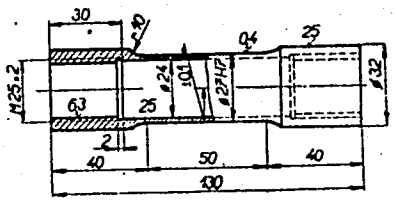
Fig. 13: Test specimen from the tube of diameter 32 x 5 mm for creep-rupture tests.



Obr. 13. Zkušební vzorek z trubky Ø 32×5 mm pro zkoušku tečení do lomu.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

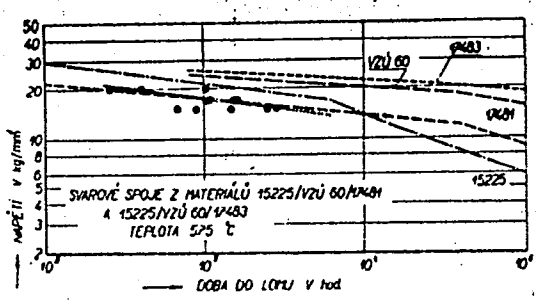
Z/034/61/000/003/004/011
E073/E335

Microstructural and Mechanical ...

Fig. 14: Results of creep-rupture tests of experimental weld joints. Stress, kg/mm^2 versus time-to-failure, hours.

Weld joints from the materials 15225/VZÚ 60/17481 and 15225/VZÚ 60/17483

Temperature 575 °C.



Card 15/15

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBORIL, F.; [redacted]

TECHNOLOGY

periodicals: HUTNICKE LISTY Vol. 13, no. 12 Dec. 1958

POBORIL, F.; ZEZULOVA, M. Constitution of austenitic steels to be used at high temperatures. p. 1061

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 5 May 1959, Unclass.

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L 29744-66 EWP(t)/ETI IJP(c) JD/WB

ACC NR: AT6009275 SOURCE CODE: GE/2501/65/013/000/0329/0335

AUTHOR: Pobořil, G. (Doctor; Engineer); Zezulová, M. (Graduate engineer)

ORG: State Iron Research Institute, Prague (Staatl. Eisenforschungs institut)

48
42
B+1

TITLE: Cr-Mn-N austenitic stainless steel, 4

SOURCE: Akademie der Wissenschaften, Berlin. Forschungsgemeinschaft der naturwissenschaftlichen, technischen und medizinischen Institute. Uber wissenschaftliche Grundlagen der modernen Technik. Reihe A: Tagungen, v. 13, 1965. Stickstoff in Metallen (Nitrogen in metals), 329-335.

TOPIC TAGS: steel, stainless steel, austenitic steel, chromium manganese nitrogen steel, solid solution, solid mechanical property

ABSTRACT: The author advances the idea of formulating scarce austenitic steels in which the nickel or a part of it is replaced with manganese or manganese in combination with nitrogen. The Iron Research Institute in Prague in cooperation with the Iron Works "Vitkovicke zelezarny Klementa Gottwalda" (VZKG) in Ostrava, "Valcovny plecu (VP) in Frydek Mistek, and "Valcovny trubek a zelezarny" (VTZ) in Khomutov, have developed the 17471 chromium-manganese-nitrogen austenitic stainless steel. The effective application of nitrogen as an alloying element in austenitic steels is based on the assumption that the solution of the total nitrogen becomes a solid γ solution. Satisfying this condition will at the same time ensure the steel's effective casting and solidification properties. The negative characteristics include, among others,

Card 1/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

L 29744-66

ACC NR: AT6009275

6

the formation of nitrides as a result of excess nitrogen (above its solubility limit) having an adverse effect on the mechanical properties in general and particularly on the deep-drawing property of the steel. Principal research was, therefore, concentrated on nitrogen solubility in steel. Formulas for establishing the nitrogen solubility limit are proposed, and various diagrams and tables are given in the original article showing the properties of ingots as a function of experimental and calculated nitrogen contents, data on yield points, tensile strength, and elongation, weldability, rollability, structural stability during cold forming, and the relationship of corrosion resistance to passivation current density in comparison with other stainless steels. The State Research Institute for Materials and Technology in Prague has been entrusted with the responsibility of introducing the new 17471 steel in machine construction; the scientists associated with this institute Engineer, Candidate of sciences, K. Lobl, Engineer, Candidate of Sciences, B. Potuck, and Engineer A. Kabrhel have been appointed to head various experimental projects at machine plants and user plants. In accordance with results obtained, the new stainless steel will be recommended for use in various industrial fields. Orig. art. has: 3 formulas and 4 tables. [LD]

SUB CODE: 11,20/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 008

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

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67012

CZECH/34-59-10-7/25

18.1150

AUTHOR : František Poboril, Engineer, Doctor

TITLE: Development of Austenitic High-temperature and Stainless CrMn Economy Steels for the Manufacture of Seamless Tubes

PERIODICAL: Hutnické Listy, 1959, Nr 10, pp 861-863

ABSTRACT: The author describes the results obtained in Czechoslovakia with CrMn economy steels developed for manufacturing superheater tubes which have to withstand the effect of superheated steam and of combustion gases. The development of austenitic economy steels began in Czechoslovakia in the Vitkovice Steel Works in 1949. MnCr steels were alloyed with up to 0.25% N and stabilization was effected by means of Nb and Ta. The creep strength at 650-700 °C practically equalled that of austenitic Cr-Ni (Ta, Nb) 16/13 steel. Due to the great shortage of Ta and Nb in Czechoslovakia, further research work was carried out for developing titanium stabilized Mn-Cr steels, Mn-Cr (Ti) 17/7 (steel 17481 of the Czechoslovakian standard specification). The heat conductivity of this steel is about 22 kcal/m °C hour in the temperature range 300-550 °C, which is considerable compared to the published values for.

Card 1/5

4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

67012

CZECH/34-59-10-7/25

Development of Austenitic High-temperature and Stainless Cr-Mn Economy Steels for the Manufacture of Seamless Tubes

austenitic steels. According to the test results of B. Přenosil (Ref 10) this steel resists oxidation in superheated steam of 180 atm up to the temperatures 610-630 °C, and up to 660 °C it resists oxidation in a medium consisting of flue gases with a low content of sulphur and a relatively high content of water vapour. According to the results of Přenosil and the author of this paper, in the air the steel resists oxidation up to 740-800 °C. In Fig 2 the creep strength of this steel is plotted for durations of 10 000, 25 000 and 100 000 hours. For temperatures above 620 °C and durations exceeding 100 000 hours the values are extrapolated by means of the Larson-Miller parameter. This Mn-Cr (Ti) 17/7 steel is suitable for tubes in forgings intended to operate at a maximum temperature of 620 °C, i.e. for superheated tubes (560 °C) up to 180 atm. For higher steam parameters a further austenitic high-temperature Mn-Cr-V 17/10 economy steel was developed; the pilot plant development of this steel was carried out in the Witkovice Steel Works in cooperation with the

Card 2/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

67012

CZECH/34-59-10-7/25

Development of Austenitic High-temperature and Stainless Cr-Mn Economy Steels for the Manufacture of Seamless Tubes

Ferrous Metallurgy Research Institute. This steel contains about 0.10% C, 18% Mn, 10% Cr, 0.60% V. It has stable austenitic structure in the temperature range of technological processing as well as in the range of operating temperatures under consideration. According to the test results of B. Přenosil, the Mn-Cr-V 17/10 steel withstands oxidation under the effect of steam superheated to 700 °C (180 atm); inside combustion products with a high content of water vapour it withstands oxidation up to 750°C and in air it restricts oxidation even above 750 °C. The high temperature stability of the Mn-Cr-V steel was determined by long-run creep tests until failure at 650, 700 and 750 °C for a laboratory 100 kg melt produced in a h.f. furnace, two pilot plant electric arc melts weighing 0.5 tons and one electric arc melt weighing 4 tons. The longest test so far (5 kg/mm^2, 700 °C) was carried out for a duration of two years and one month; the obtained results are graphed in Fig 3, p 862. On the basis of these results creep strength data as a function of temperature for 10 000, 25000 and 100 000 hours are graphed in Fig 4. This economy

Card 3/5

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CZECH/34-59-10-7/25

Development of Austenitic High-temperature and Stainless Cr-Mn Economy Steels for the Manufacture of Seamless Tubes

austenitic steel has a very high ductility under creep conditions, it has very high values of extension and contraction during fracture and these values drop little with increasing times to failure. It was established that this steel is suitable for forgings and tubes intended to operate at material temperatures up to 675 °C, i.e. for superheater tubes of high parameter steam of 600-625 °C. In the graph of Fig 5 the properties of the here-described economy steels with austenitic Cr-Ni steels are compared. As regards creep strength the Czech Mn-Cr-V 17/10 steel is equal to the American steel AISI 347 or 348. In the Research Institute for Shaping Metals in Zwickan (East Germany) the possibility has been confirmed of producing seamless tubes from the Mn-Cr-V 17/10 steel by extrusion in the hot state. Welding technology for superheater tubes made of this steel is being developed at the Welding Research Institute in Bratislava. Jointly with the Witkovice Steel Works, VTŽ Chomutov and TŽ VŘSR, the research institute of the author is developing stainless

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CZECH/34-59-10-7/25

Development of Austenitic High-temperature and Stainless Cr-Mn Economy Steels for the Manufacture of Seamless Tubes

Card 5/5

and heat-resistant FeCrMnN steels which will enable saving of nickel.
There are 5 figures and 13 references, of which 8 are German and 5 Czech.

ASSOCIATION: Výzkumný ústav hutnictví železa, Praha (Ferrous Metallurgy Research Institute, Prague)

SUBMITTED: June 1, 1959

4

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POBORIT, F.

3

Constitution of austenitic Mn–Cr and Cr–Ni steels for high-temperature service. F. Poborit, M. Knotek, M. Zezulov[illegible] [illegible], 1953, 10, 725—737).—The present position of the attempt to simplify the treatment of the many-component systems of austenitic steels by the method of constitutional equivalents is discussed, and experiments are carried out on Mn–Cr and Cr–Ni steels, carbide-stabilized with Ta, Nb, Ti, and V. Comprehensive tables are given of the composition of the steels and of their degree of embrittling. A number of microphotographs of various structures is also reproduced. The steels were treated by two methods, viz., normalisation heating at 1000° in the presence of air and 1000 hr. at 800°. The assumption of the possibility of determining the approx. position of technical austenitic steels in ternary diagrams (Fe–Mn–Cr or Fe–Cr–Ni) was confirmed. Equations for the calculation of equivalents of the chief alloying elements were derived, using the concentrations of free (unbound) parts of the content of the element concerned in the solid solution of the phase. The min. content of the element required for total suppression of the γ-phase in binary mixtures with Fe was taken as the criterion of the constitutional influence of those elements which limit the region of existence of the γ-phase, whilst the min. amount required to produce a constitutionally stable γ-phase at 800° was employed when considering elements enlarging the region of the stable γ-phase. The work to date has led to three types of stabilised steel, viz., Mn–Cr–N 17—10—0·2, (Ta, Nb); Mn–Cr 17—7, (Ti); and Mn–Cr 17—10 (V stabilised).

A. O. JAKUBOVIC.

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"Microscopic Structure and Origin of Some Cannel Deposits in the Upper Silesian Coal Basin", P. 201, (ARCHIWUM GORNICTWA I HUTNICTWA, Vol. 2, No. 2, 1954, Warszawa, Poland)

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4243. SAPROPEL COAL FORMATIONS. Poborski, C. (Przegled Geniuszy, Sept. 1950, vol 6, 441-448).

The following aspects are dealt with: macro- and microscopic and chemical characteristics, and division into coal proper shales, cannel and boghead; the genesis of cannel, boghead and other minerals; the connection between the metamorphosis of sapropel formation and the origin of liquid and gaseous hydrocarbons; the industrial importance of sapropel formations. There are 38 references. (L)?

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4243. SAPROPEL COAL FORMATIONS. Poborski, C. (Przegląd Górniczy, Sept. 1950, vol. 6, 441-449). The following aspects are delt with: macro- and microscopic and chemical characteristics, and division into coal proper shales, cannel and boghead; the genesis of cannel, boghead and other minerals; the connection between the metamorphosis of sapropel formations and the origin of liquid and gaseous hydrocarbons; the industrial importance of sapropel formations. There are 36 references. (L)

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POBORSKI, Czeslaw, doc. dr inz. [deceased]; POBORSKI, ~~Josef~~, prof. dr inz.

From studies on the gas bearing character of rocks in salt mines of the Kujawy region. Przegl gorn 21 no.2:62-64 F '65.

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POBORSKI, Czeslaw, doc. dr inz. [deceased]; POBORSKI, Jozef, prof. dr inz.

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114. MICROSCOPICAL STRUCTURE AND ORIGIN OF CANNEL AND BOGHEAD DEPOSITS IN UPPER SILESIAN COAL BASIN, POLAND. Poborski, C. (Arch. Górn. Hutn. (Arch. Min. Met., Warsaw), 1954, vol. 2, (2), 201-224). Descriptions and micro-photographs of transparent sections are given of samples from the roof of the Andrzej-Kamel seam, from between seams 407 and 408 and from the bottom of seam 510. Evidence is given of the transformation of plant tissue into bituminous substances. It is hoped that further investigation will throw light on the origin of petroleum, though the environment and conditions were different. (L).

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Action of Co_2 in the neighborhood of excavations in protective layers of the Piast shaft of the Nowal Ruda coal mine in Lower Silesia. p. 169. (ARCHIWUM GORNICTWA. Vol. 2, no. 3, 1957. Warszawa, Poland)

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2. "Results of Geological Works During 1956-1960," Ewa NIEPIELSKA-KOWALKOWSKA of the Central Geology Office (Centralny Urzad Geologii); pp 5-9.

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4. "Laramite Folding in the Sudeten," Stanislaw RADWANSKI of the University (Universytet) at Wroclaw; pp 13-16. (English summary).

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6. "Some Opinions on the Beginnings of Salt Production in Bochnia," Jozef POBORSKI of the Academy of Mining and Metallurgy (Akademia Gorniczo-Hutnicza) and the Geological Institute; pp 21-23.

7. "Regional Metallogeny and Method of Plotting Metallogenic Maps," Jerzy FEDAK of the Geological Institute; pp 23-27. (English summary).

8. "Course of Drilling the 1-RE-University (Texas) Bore-Hole," Waclaw SKOCZYNSKI of the Geological Institute; pp 27-29.

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15th anniversary of the death of prof. Stefan Czarnocki.
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Gases in Polish salt mines. p.51

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The concentration of helium in the gas-bearing salt deposits in the Kujawy region. p. 407.

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[illegible]

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"Zloze solne Bochni na tle geologicznyne okolicy. The Bochnia salt deposit on the geological background of region. Warszawa, Wydawn. Panstwowego Instytutu Geologicznyego, 1952. 160 p. (Panstwowy Instytut Geologiczny. Biuletyn 72) (Russian and English summaires. Illus., plates, maps (3 fold. col. in pocket)

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POBORSKI, Jozef; SKOCZYLAS-CISZEWSKA, Kamila

Miocene in the zone of the Carpathian Overthrust in the vicinity of Wieliczka and Bochnia. Rocz geol Krakow 33 no.1/3:339-438 '63.

1. Department of Nonmetallic Mineral Deposits, School of Mining and Metallurgy, Krakow.

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POBORSKI, JOSEF PA 30T29

POLAND/Geology Jul 1947
Sodium Chloride

"Recent Contributions to the Geology of Salt Beds in Western Poland," Josef Poborski, 30 pp

"Biuletyn, Panstwowy Instytut Geologiczny" No 36

Study of a salt-bearing formation extending in the northern and western parts of Poland. It is an eastern prolongation of the North German Zechstein salt formation, where the greatest sodium and potash salt beds in the world are situated. The formations in Poland amount to over 2,500 meters. The article is a collection of data gathered by Polish operation and development of the mines in Inowroclaw and Wapno from 1919 to 1939, and by German work during the occupation (1940 - 1944). Seven plates. SI 30T29

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Poland CA: 47:12149

POBORSKI, JOZEF

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Kwartalnik geol 8 no.1:111-121 '64

1. Karpacka Stacja Terenowa, Instytut Geologiczny, Krakow.

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POBORSKI, Jozef

The main trends of prospecting for potassium-magnesium salts in Poland. Przegl geol 9 no.11:570-573 '61.

1. Instytut Geologiczny, Warszawa.

(Poland—Potassium) (Poland—Magnesium)

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1. Instytut Geologiczny, Warszawa.

(Poland—Paleogeography)

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L 45937-66 EWT(m)/T DJ/GD (2)

ACC NR: AT6020588 (A) SOURCE CODE: UR/0000/65/000/000/0067/0076

AUTHOR: Ishchuk, Yu. L.; Sinitsyn, V. V.; Prokopchuk, V. A.; Nakonechnaya, M. B.; Man'kovskaya, N. K.; Ishchuk, L. P.; Pobortsev, E. P.

ORG: UkrNIIgiproneft

TITLE: Effect of water concentration and composition of fatty acids on the structure and properties of synthetic greases

SOURCE: Neftepererabotka i neftekhimiya (Petroleum refining and petroleum chemistry). Kiev, Naukova dumka, 1965, 67-76

TOPIC TAGS: fatty acid, grease

ABSTRACT: A series of greases were prepared from the residue of the synthesis of synthetic fatty acids (acid number 103 mg KOH/g), C_5-C_9 acids (280 mg KOH/g), and acid water (248 mg KOH/g); the dispersion medium was a mixture of Z spindle oil and S machine oil. This composition corresponds to that of commercial synthetic grease. It was found that a change in the water content of the greases in the range of 1 to 5% does not affect their volume mechanical properties or structure, indicating that it is desirable to raise the water content of such greases to 4-5%. The structure of hydrated calcium lubricants prepared from soaps of narrow fractions of heat-treated and distilled synthetic fatty acids and their mixtures differs from the structure of fatty and synthetic greases in that it consists of rod-shaped, petal-shaped, and flaky soap

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L 45937-66

ACC NR: AT6020588

crystallites. The greatest thickening capacity is displayed by C_{16}-C_{20} acids with an average molecular weight of 286-300 and a purity of the fraction of no less than 90-95%. A wide boiling fraction of C_{13}-C_{22} acids with a purity of no less than 98% is recommended for practical application and for producing high-quality synthetic grease. Orig. art. has: 5 figures and 4 tables.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

ACC NR: AR6035530 SOURCE CODE: UR/0277/66/000/009/0012/0012

AUTHOR: Poborzhil, F.; Zezulova, M.; Kalpar, M.

TITLE: Constructural austenitic steel 17481 for operation at reduced temperatures

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod, Abs. 9.48.65

REF SOURCE: KhISA. 2-y Mezhdunar. kongr. khim. inzh. tekhn. khim. oborud. i avtomat., Marianskiye Lazne, 1965 g. S. l., 1965, E310

TOPIC TAGS: austenite, structural steel, austenitic steel, manganese steel, chromium steel/10Mn20Cr8Ti steel

ABSTRACT: Austenitic steel 10Mn20Cr8Ti (17481) has been developed and serially produced in Czechoslovakia. The steel possesses optimum, mechanical, and technological properties and is suited for use in equipment operating at below-zero temperatures (up to -200C). To increase the impact toughness at -200C, the steel is inoculated with titanium to increase the stability of the austenite. [Translation of abstract] [NT]

SUB CODE: 11/

Card 1/1 UDC: 669.14.018.29

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBOYKOVA, Ye.G.; PETROVA, N.V.; SERGEYEV, V.V.

Manufacture of soluble glass at the Ingichka factory. TSvet. met. 36 no.11:90 N '63. (MIRA 17:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBOYKOVA, Ye.G.; PETROVA, I.V.

Tall oil as substitute for oleic acid. TSvet. met. 35 no.9: 89-91 S '62. (MIRA 16:1)

(Flotation--Equipment and supplies)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

BIBINOV, S.A.; POBOYKOVA, Ye.G.; PETRENKO, V.D.; KHAYDAROV, A.A.

Radiometric method of analyzing the products of tungsten ore dressing. TSvet. met. 36 no.7:84-86 Jl '63. (MIRA 16:8)
(Tungsten--Analysis) (Radiometry)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

L 44218-66

ACC NR: AP6017997 (A) SOURCE CODE: UR/0413/66/000/010/0106/0106

INVENTOR: Kovalev, V. A.; Pobozhiy, A. M.; Bolvakin, Yu. P.; Makarevich, V. Ya.; Rumyantsev, A. V.

14
B

ORG: none

TITLE: Flexible suspension bracket. Class 47, No. 181907. [announced by the Special Design Office for Mining Equipment (Spetsial' noye konstruktorskoye byuro gornoobogatitel' nogo oborudovaniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 106

TOPIC TAGS: ~~bracket,~~ suspension bracket, ~~flexible bracket~~ hendtool

ABSTRACT: An Author Certificate has been issued for a flexible suspension bracket consisting of a stationary and a moving part, with a shock absorber between them, and a clamp bolt. To facilitate simultaneous vertical and angular movements of the

Card 1/2 UDC: 62-219.52-752

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

L 44218-66

ACC NR: AP6017997

moving part, paired knife-edges are mounted beneath the moving part on top of the stationary part. [KP]

SUB CODE: 13/ SUBM DATE: 19Feb65/

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBOZHIY, G.

107-8-14/62

AUTHOR: Poboshiy, G., President of the First "DOSAAF" Organization of School No 3.; Ul'kin, E., President of the Amateur Radio Club; Mamonyako, M., Council Member of the Radio Club and others.

TITLE: Indifferent Attitude towards an Important Matter. (Bezrazlichnoye otnosheniye k vashnomu delu).

PERIODICAL: Radio, 1957, Nr. 8, p 11, col 2-3 (USSR).

ABSTRACT: At the end of February an amateur radio club with 49 members was organized in KLINTSY, District of BRYANSK, affiliated to Technical School # 3.

From membership dues and with the help of the school directorate the club acquired necessary materials. The club possesses radio measuring instruments, receiving and transmitting equipment and a well equipped laboratory.

The members are divided in two groups. One group of radio amateurs elaborates and designs radio broadcasting and radio measuring installations of medium complexity, while in the other group, ultra short wave apparatus are designed and the members are trained to become wireless operators.

Card 1/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBREBNOY, L.

Regulating wages and establishing work norms. Sov. profsoiuzy no. 17:24-26 S '61. (MIRA 14:8)

1. Zaveduyushchiy otdelom truda i zarplaty Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov.
(Wage payment systems)
(Production standards)
(Trade unions)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

NIKITENKO, L.A. [Nykytenko, L.A.]; POBREHNYAK, A.P. [Phrebniak, A.P.]

Course of hepatocholecystitits in children with chronic tonsillitis. Pediat. akush. ginek. no.3:26-28 '63. (MIRA 17:1)

1. Kafedra propedevtiki pediatrii i kafedra bolezney ukha, gorla i nosa Khar'kovskogo meditsinskogo instituta (rektor - dotsent B.A.Zadorozhnyy [Zadorozhnyi, B.A.] na baze 7-go detskogo ob"yedineniya (glavnyy vrach R.A.Korobchanskaya [Korobchans'ka, R.A.]).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

YEFIMENKO, G.G., kand.tekhn.nauk; GIMMEL'FARB, A.A., kand.tekhn.nauk; Prinimali uchastiye: POLTAVETS, V.V., inzh.; GRISHKO, V.A., inzh.; NEMCHENKO, S.Z., inzh.; OSTAPENKO, V.A., tekhnik; POBUDINSKIY, L.I., tekhnik; KATSMAN, V.Kh., tekhnik; KARMAZIN, A.G., tekhnik

Regulating blast furnace operations by fluctuations of fas pressure and the distribution of materials in the hearth bottom. Stal' 22 no.10:876-880 O'62. (MIRA 15:10)

(Blast furnaces)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

TRACZYK, W.; SADOWSKI, B.; POBUDKOWSKI, A., KARCZ, S. [deceased); RECK, J.

Functional conditions of certain subcortical centers and animal behavior. Acta physiol.polon. 11 no.5/6:899-901 '60.

1. Z Zakladu Fizjologii Polskiej Akademii Nauk w Warszawie, Kierownik: prof.dr F.Czubalski.
(BEHAVIOR)
(BRAIN physiol)
(REFLEX CONDITIONED)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBUDKOWSKI, A.

KARCZ, S.; POBUDKOWSKI, A.; TRACZYK, W.

Effect of irritation of the hypothalamus on digestive reflexes in rabbits. Acta physiol. polon. 8 no.3:369-371 1957.

1. Z Pracowni Fizjologii Kierownik naukowu: prof. dr F. Czubalski Zakladu Patomorfologii PAN Dyrektor: prof. dr L. Paszkiewicz.
(GASTROINTESTINAL TRACT, physiology,
eff. of hypothalamic stimulation on digestive reflexes in rabbits (Pol))
(HYPOTHALAMUS, physiology,
eff. of stimulation on digestive reflexes in rabbits (Pol))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

HOBUDSKY, V.

"Decay of artificially milted unfertilized eggs.", p. 115, (SBORNIK, Vol. 26, #1/2, Feb. 1953, Czechoslovakia)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress, August 1953, Uncl.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

ROBUDSKY, V.

"Conditions in a restored fish pond in the first vegetative period.", p. 95, (SBORNIK, Vol. 26, #1/2, Feb, 1953, Czechoslovakia)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress, August 1953, Uncl.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBUL, E.

Magnetic anomalies in Estonia. p. 72

EESTI LOODUS. (Eesti NSV Teaduste Akadeemia)
Tartu, Estonia. No. 2, Mar. 1959.

Monthly list of East European Accessions (EEIA) Vol. 9, no. 1, Jan 1960.

Uncl.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

112-57-7-14298

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 7, p 77 (USSR)

AUTHOR: Novod, F., and Pobul, G.

TITLE: Closed-Mesh Distribution Networks in the Estonian SSR (K voprosu o raspredelitel'nykh setyakh po zamknutoy skheme v ESSR), (Electrienergia jaotamise segasusteemi rakendamise voimalustest Eesti NSV-s)

PERIODICAL: Sots. pollumajandus, 1956, Nr 8, pp 23-25

ABSTRACT: Bibliographic entry.

Card 1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

SOV/23-58-3-1/11

AUTHOR: Pobul', G.Kh., Candidate of Technical Sciences

TITLE: The Effect of the Capacity of Local Transformer Substations on the Economic Efficiency of the Electric Power Supply in Agricultural Areas (O vliyanii moshchnosti transformatornykh punktov na ekonomiku elektrosnabzheniya v sel'skom khozyaystve)

PERIODICAL: Izvestiya Akademii nauk Estonskoy SSR, 1958, Nr 3, pp 167 - 173 (USSR) (Seriya tekhnicheskikh i fiziko-matematicheskikh nauk)

ABSTRACT: The article deals with the rational planning of low-voltage line systems used for the electrification of agricultural areas. Since the system's voltage and the permissible voltage drop are known, the capacity or number of local transformer substations are the only factors determining the metal consumption and investment costs in the planning of such systems. If the number of local transformer substations is changed, the proportionate costs of the low-voltage and high-voltage system and that of the local transformer substations will also change. When the local transformer substations reach a certain capacity, over-all costs reach minimum value. Equations to determine the economical capacity for three-phase as well as single-phase local transformer substations are

Card 1/3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

given; the costs of the high-voltage system are also considered. Use of an attached nomographic chart (Figure 2) quickly determines the economical capacity of the local transformer substations with 380/220 volts and a 2 x 220 volt distributing systems. The factors determining the most economical value of these substations are analyzed. One of the most economical value of these substations are analyzed. One of the most important factors is the power loss per meter of the grid. In the Estonian SSR, this loss will be about 8 ... 9 $\frac{VA}{m}$ for the planned extension of the systems to the housing areas of the kolkhozes. The economical capacity of 10 kVA for single-phase local transformer substations corresponds with this power loss. The reduction of the former too high capacities of the local transformer substations considerably reduces the metal consuption for the low-voltage systems. It is also possible to use steel lines instead

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

SOV/23-58-3-1/11

The Effect of the Capacity of Local Transformer Substations on the Economic Efficiency of the Electric-Power Supply in Agricultural Areas

of aluminum lines. This shows that at the comparatively low loads met with in agriculture as a rule, the economical adaption of the transformer capacities is of special importance. There are 6 graphs and 3 Soviet references.

ASSOCIATION: Institut energetiki AN Estonskoy SSR (The Energetics Institute of AS Estonian SSR)

SUBMITTED: November 13, 1957

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Electric power production--USSR 2. Electric power plants --Substations 3. Electric power production--Costs 4. Transmission lines--Costs

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

8(6 SOV/23-59-1-4/10

AUTHOR: Pobul , G , Candidate of Technical Sciences

TITLE: About the Installation of Protection on Side Power Lines of Rural Networks (K voprosu ustanovki zashchity na otvetvleniyakh sel'skokhozyaystvennykh setey)

PERIODICAL: Izvestiya Akademii nauk Estonskoy SSR, 1959, Nr 1, pp 38 - 45 (USSR)

ABSTRACT: The principal cause of troubles in the supply of electric power to rural areas rests with short circuits, 60-80% of which are unstable, self-eliminating short circuits. The author mathematically examines the expediency of using APV's (automatic repeated cut-in devices) and multi-action fuses on side power lines to rural areas, noting the disagreement in this matter shown by other authors. He recommends introducing files on the shortcomings of the electric power supply in a given area, so as to be in a position to sum them up, study and find methods of improvement. The author's considerations are express-

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

SOV/23-59-1-4/10

About the Installation of Protection on Side Power Lines of Rural Networks

ed in a series of equations and graphs for use in evaluating the above-mentioned difficulty under given local conditions. The author himself comes to no conclusion, leaving it to be made by specialists on the spot. There are 2 graphs, 1 diagram and 7 references, 6 of which are Soviet, and 1 American.

ASSOCIATION: Institut energetiki Akademii nauk Estonskoy SSR (Institute of Power Engineering of the Academy of Sciences of the Estonian SSR)

SUBMITTED: February 2, 1959

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

VORK, Hnas, prof.; POBUL, G., kand. tekhn. nauk, retsenzent; ABO, L., red.; TIMMER, K., tekhn. red.

[Steel overhead lines] Ohuliinid terasjuhtmeist. Teine, umbertootatud trukk. Tallinn, EEsti riiklik kirjastus, 1961. 78 p. (MIRA 15:5)

(Electric lines—Overhead)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

[illegible], [illegible]

Dissertation: "Questions on Selecting the Configuration of Electrical Networks in Agricultural Areas." Cand Tech, Power Engineering Institute imeni G. M. Krzhizhanovskiy, Acad Sci USSR, 1 Jul 54. (Vechernyaya Moskva, Moscow, [illegible] Jun 54)

SO: SO: 518, 23 Dec 1954

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBUL', L. [Pobul, L.], kand.tekhn.nauk; FOMINA, A., kand.tekhn.nauk

Refining and fractionation of mixtures of saturated dicarboxylic acids produced by oxidation of kerogen in kukersite. Eesti tead akad tehn fuus 11 no.3:203-211 '62.

1. Academy of Sciences of the Estonian S.S.R., Institute of Chemistry.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBUL', L.Ya.; FOMINA, A.S.; DEGTEREVA, Z.A.

Analyzing dicarboxylic acid mixtures by the method of distributive chromatography on silica gel. Khim. i tekh. topl. i masel. 6 no.10: 55-59 O '61. (MIRA 14:11)

1. Institut khimii AN Estonskoy SSR.
(Acids, Fatty) (Chromatographic analysis)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POBUL' L. Ya.

ХИМИЧЕСКАЯ ПРИРОДА КЕРОГЕНА
ПРИБАЛТИЙСКОГО ГОРЮЧЕГО СЛАНЦА КУКЕРСИТА
И НОВЫЙ ПУТЬ ЕГО ИСПОЛЬЗОВАНИЯ

А. С. Фоменко, Л. Я. Побул, З. А. Дегтерева

VIII Mendeleyev Congress for General and Applied Chemistry in
Section of Chemistry and Chemical Technology of Fuels,
publ. by Acad. Sci. USSR, Moscow 1959

abstracts of reports submitted to be presented at above mentioned congress,
Moscow, 19 March 1959.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCANSCHI, Adrian, ing.; ENESCU, Constantin, tehnician (Pitesti); POPESCU, Teodor; DORIAN, G. (Oradea)

The first frost, the first checking in the spirit of foresight. Constr Buc 15 no.725:3 30 N '63.

1. Intreprinderea no.1 a Trustului Regional de Constructii de Locuinte, Cluj (for Pocanschi). 2. Seful serviciului plan-materiale din Trustul Regional de Constructii de Locuinte, Ploiesti (for Popescu).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCANSCHI, Adrian, ing.

The Cluj line of heights. Constr buc 15 no.729:3 28 D'63.

1. Sef de lot la Intreprinderea de constructii nr.1. Tu.1 Trustul Regional de Constructii de Locuinte, Cluj.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCANSCHI, Adrian, ing.

Causes and methods of preventing deviations in gliding shuttering concrete work. Constr Buc 16 no.735:3 8 F'64.

1. Din Trustul Regional de Constructii de Locuinte, Cluj.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

KLVANOVA, H.; HRINKO, S.; POCH, J.

The leukopenic index in rheumatic fever. Vnitrni lek. 11 no.6: 570-572 Je'65.

1. I. interna klinika University P.J. Safarika v Kosiciach (prednosta: prof. MUDr. Fr. Por).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCH, R.; CHLUMSKY, J.

Abnormal duodenobiliary communications. Cas. lek. cesk. 102 no.29/30:805-807 12 Jl '63.

1. I.klinika nemoci vnitrnich lekarske fakulty hygienicke KU v Praze, prednosta prof. dr. Vr. Jonas, DrSc.
(BILIARY FISTULA) (INTESTINAL FISTULA)
(FLATULENCE) (CHOLELITHIASIS)
(CHOLANGIOGRAPHY) (CHOLECYSTOGRAPHY)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

NAHODIL, V.; POCH, R.

Cystic angioleiomyoma of the spleen. Rozhl. chir. 42 no.6: 388-390 Je '63.

1. Chirurgicka klinika, prednosta prof. dr. E. Polak a interni klinika, prednosta prof. dr. V. Jonas, lekarske fakulty hygienicke KU v Praze.
(SPLENIC NEOPLASMS) (LEIOMYOMA)
(HEMANGIOMA) (SPLENECTOMY)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

CZECHOSLOVAKIA

POCH, R., and CHLUMSKY, J., First Clinic of Internal Medicine (1. klinika nemoci vnitrnich), Faculty of Medical Hygiene (Lekarska fakulta hygienicka), Charles University, Prague, Prof. Dr Vr. JONAS, Dr of Sciences, director.

"Abnormal Duodenobiliary Communication"

Prague, Casopis Lekaru Ceskych, Vol CII, No 29-30, 12 July 1963, pp 805-807.

Abstract [Authors' English summary]: Report on five X-ray findings of gas in the biliary passages in patients with no previous abdominal operation. Causal and formal genesis, and differential diagnosis of these conditions are discussed. Thirty-five references, including 7 Czech.

1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCH, Josef

Combined system of operational jigs. Stroj vyr 12 no.11:820-821 '64.

1. Zavody V.I. Lenina National Enterprise, Plzen.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

YERMOL'YEVA, Z.V.; POCHAPINSKIY, V.I.; BREGER, A.Kh.

Radiation sterilization of antibiotic preparations. Report No.2. Basic premises for utilization of nuclear radiations in sterilizing antibiotics. Selection of radiation sources and study objects. Antibiotiki 6 no.10:904-908 O '61. (MIRA 14:12)

1. TSentral'nyy institut usovershenstvovaniya vrachey, Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov i Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L.Ya.Karpova.
(ANTIBIOTICS) (RADIATION STERILIZATION)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCHAPINSKIY, V.I.

Radiation sterilization of antibiotic preparations. Report No. 6: Radiation sterilization of antibiotic ointments and ointment bases. Med.prom. 16 no.7:34-39 Jl '62. (MIRA 15:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ANTIBIOTICS) (OINTMENTS) (RADIATION STERILIZATION)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCHAPINSKIY, V.I.; YERMOL'YEVA, Z.V.; BREGER, A.Kh.

Radiation sterilization of antibiotic preparations. Antibiotiki 7 no.9:786-789 S '62. (MIRA 15:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (for Pochapinskiy, Yermol'yeva). 2. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.

(RADIATION STERILIZATION)(ANTIBIOTICS--STERILIZATION)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3

POCHAPINSKIY, V.I.; YERMOL'EVA, Z.V.; BREGER, A.Kh.

Radiation sterilization of antibiotic preparation. Report No.4. Med. prom. 15 no.9:28-33 S '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov i Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L.Ya. Karpova.

(ANTIBIOTICS) (RADIATION STERILIZATION)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341410013-3"