Application of steel ...

(precipitation of Ni_3Ti at the grain-boundary regions and in the interior of the grains) and in a decrease in the lattice parameter. The results of the next series of experiments showed that the hardness of the steel studied decreased on heating, reaching a minimum of approximately 160 HB at 600 °C, then increasing to a maximum of about 210 at 800 °C and decreasing on further heating to reach the value of ~ 50 at 1 000 °C; the final decrease in hardness was attributed to coalescence of the hardening-phase particles and softening of the solid-solution matrix. Since the preliminary ageing treatment, recommended for parts operating at 680 - 750 °C, was 16 hours ageing at 750 °C, parts operating at 800 °C would have to be aged at, say, 850 °C and the effect of both of these treatments on the creep properties of steel EI692 was studied in the next series of experiments. The results are reproduced in Fig. 2, where the stress (kg/mm^2) is plotted against time-to-rupture (hours) at 800 °C. Curves 1 and 2 relating to specimens

Card 2/5

preliminarily austenized at 1 150 °C (2 hours at the tempering temperature followed by air-cooling) and aged for 16 hours at 750 °C (Curve 1) or for 20 hours at 850 °C (Curve 2). It will be seen that although in the high applied stress (12 - 24 kg/mm^2) range the resistance-to-creep of specimens preliminarily aged at 750 °C was higher than that of material aged at 800 °C, this difference practically disappeared in the low-stress (i.e. long time-to-rupture) range. Since no anomalous changes in the elastic modulus or heat-conductivity were observed in the steel studied when heated from 700 - 800 °C, it was concluded that this steel retained its high thermal stability at 800 °C and could be recommended for use at this temperature.
There are 4 figures, 2 tables and 3 Soviet-bloc references.

Card 3/5

ACCESSION NR: AP4037637 S/0096/64/000/006/0040/0043

AUTHOR: Lupakov, I. S. (Candidate of technical sciences); Moskvichev, G. S. (Candidate of technical sciences); Zakharov, Yu. V. (Engineer); Gerasimov, V. V. (Doctor of technical sciences)

TITLE: Comparative investigation of the resistance of some austenitic and austenitic-ferritic steels to corrosion cracking

SOURCE: Teploenergetika, no. 6, 1964, 40-43

TOPIC TAGS: steel, stainless steel, austenitic stainless steel, OKh18N10T steel, austenitic ferritic steel, corrosion resistant steel, steel corrosion, corrosion cracking, steel corrosion cracking, stress corrosion, steel stress corrosion

ABSTRACT: Corrosion cracking resistance of ten chromium-nickel stainless steels containing 0.02—0.07% carbon, 19.2—22.42% chromium, 3.98—12.95% nickel, 0.12—1.13% titanium, 1.57—3.55% molybdenum (four steels), 0.15—0.22% silver (two steels), and 1—90% ferrite has been investigated with sheet specimens 1—1.5 mm thick, annealed at 1050C and air cooled. The corrosion cracking

Card 1/3

ACCESSION NR: AP4037637

tests were done in saturated vapor at 330C under a 150-bar pressure and 16—18 kg/mm^2 stress and for some specimens in a 42% magnesium chloride solution at 150C. Tests showed that ferrite content is no indicator of susceptibility to corrosion cracking. Susceptibility to corrosion cracking depends upon the electrochemical behavior of the structural components, which in turn is determined by the chemical composition of the components. It can be assumed that steels in which ferrite and austenite are both in the passive state and have roughly the same dissolution rates are susceptible to corrosion cracking. Two-phase steels containing 0.05% C, 19.0% Cr, 8.7% Ni, 0.22% Ti with 5—6% ferrite; 0.02% C, 19.2% Cr, 5.96% Ni, 0.15% Ti with 15—20% ferrite; or 0.04% C, 20.3% Cr, 6.47% Ni, 0.27% Ti, 1.57% Mo with 50—60% ferrite were found to be the most resistant to corrosion cracking and withstood the test for 400 hr. Molybdenum at a content of 1.57% does not appear to affect susceptibility to corrosion cracking, but definitely increased it at a content of 2.8% and more. The addition of 0.15—0.22% silver to steels with a low ferrite content increases the steel's resistance to corrosion cracking but lowers greatly its forgeability. Orig. art. has: 2 tables and 4 figures.

Card 2/3

ACCESSION NR: AP4042260 S/0089/64/017/001/0049/0052

AUTHOR: Lupakov, I. S.; Kuz'michev, Yu. S.

TITLE: Helium penetrability of metallic tube walls

SOURCE: Atomnaya energiya, v. 17, no. 1, 1964, 49-52

TOPIC TAGS: steel tube wall, helium penetrability, helium penetration, seamless 1Kh18N9T steel tubing, AISI321 steel tubing, EI437B alloy tubing, Nimonic 80A tubing, helium diffusion

ABSTRACT: The penetration of helium through the walls of metallic tubes or cast bushings has been investigated at temperatures up to 800C and pressures up to 100 atm. Seamless tubes of stainless 1Kh18N9T (AISI321) steel 24 x 1.5 to 32 x 4.5 mm in size were subjected to an internal pressure varying from 52 to 100 atm for 12—90 min; tubes of 12Kh1MF steel 18 x 0.5 to 22 x 2.0 mm in size were tested at a pressure varying from 40 to 80 atm for 50—72 min at 700C, and tubes of EI437B (Nimonic 80A) alloy 7 x 0.5 and 10.5 x 1.0 mm in size at a pressure of 100—105 atm for 12 min at 900C and at 800C

Card 1/2

ACCESSION NR: AP4042260

for 3 min, respectively. Practically no helium leak was observed through all tube walls tested at pressures below 60 atm and temperatures up to about 600C. Only 1Kh18N9T steel tubes (27 x 3.5 and 27 x 1.5 mm) under a pressure of 60 atm at 600C, and EI437B alloy tubes (10.5 x 0.5 mm) under a pressure of 100 atm at 700C leaked helium. No leaks were observed in all tubes subjected to external helium pressure. Thus, it appears that the penetration of helium through the tube walls occurs because of submicroscopic cracks appearing in the material subjected to sufficiently high internal pressure at high temperatures and not because of diffusion. The detected leakage of helium, less than 10^{-12} $1/cm^2 \cdot sec$, was within the limits of measurement error. No tensile strength changes were observed in the investigated materials after helium and air-pressure tests. The insignificant changes observed in the microstructure can be ascribed to the natural aging of test specimens at high temperatures. Orig. art. has: 5 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 28Oct63 ATD PRESS: 3068 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 000

Card 2/2

L 11926-63 EPR/EPF(c)/EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC/ASD/SSD
Ps-4/Pr-4/Pu-4 WW/JD/DM

ACCESSION NR: AP3003987 S/0089/63/015/001/0079/0080

AUTHORS: Lupakov, I. S.; Kuz'michev, Yu. S.; Zakharov, Yu. V. 80

TITLE: Determination of permeability at tubes and walls for helium 27

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 79-80

TOPIC TAGS: permeability of helium, helium diffusion, heat transfer, vacuum furnace

ABSTRACT: There is a discrepancy in the data concerning the diffusion of helium through metals. The present work was undertaken because of the possible applications of helium gas for heat transfer in installations working at high pressures and temperatures. The experimental arrangement consisted essentially of a vacuum furnace, leak detector (mass spectrometer type) PTI-4A, pumps and a helium tank. The method of measurement consisted of determination of the amount of gas (by pressure measurements) in the chamber surrounding the tube under study, accumulating in a given time, after the stationary condition was established. This condition was checked with the leak detector. By measuring the accumulation of gas with and without helium in the tube, the permeability of helium was determined, as the difference of these two measurements. For tubes made of stainless steel and of a nickel alloy, it was found that at 600C and 60 atm/cm^2, the permeability was less than 1 X 10-9 liters/sec*cm2.

Card 1/2

S/129/62/000/010/005/006
E073/E335

AUTHORS: Lupakov, I.S., Candidate of Technical Sciences and Kuz'michev, Yu.S., Engineer

TITLE: Strength and resistance-to-intercrystallite corrosion of welded joints on steel Kh18N12M2T (Kh18N12M2T)

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1962, 60 - 63

TEXT: The long-run (at 650 and 750 °C, with maximum duration of 1 800 hours) and short-run strength, ductility and impact strength of the base metal and of weld seams immediately after welding and after long holding of the specimens at elevated temperatures as well as resistance to intercrystallite corrosion of the weld seams were investigated. Tube specimens, 40 mm in diameter, with a wall thickness of 3 mm (containing 0.06% C, 1.26% Mn, 0.36% Si, 16.5% Cr, 12.63% Ni, 2.22% Mo, 0.61% Ti) were used in the tests. From tubes welded in an argon atmosphere with non-melting electrodes (the weld gap was filled with wire of the material СВ-Х18Н11М (SVKh18N11M)) specimens with the weld seam in the transverse direction were cut out for strength,

Strength and ....

impact and bending tests. The strength and ductility were determined at 20, 350, 650 and 750 °C; the yield point was determined by measuring the deformation by means of an instrument with a scale division of 0.02 mm. Conclusions: weld seams on the steel Kh18N12M2T, produced by means of automatic tube-welding equipment with non-melting electrodes in an argon atmosphere, have the same strength as the base metal. No appreciable embrittlement occurred after holding the specimens at 650 and 750 °C, respectively, for durations up to 2 000 hours. Investigation on 90° bends of 3 x 10 x 100 mm specimens with respect to intercrystallite corrosion, according to the AM method with and without heating of the specimens at 650 °C for 2 hours, showed that the welding seams did not tend to develop intercrystallite corrosion immediately after welding or after holding at 650 and 750 °C for durations up to 2 000 hours. There are 4 figures and 3 tables.

Card 2/2

ACCESSION NR: AP4042813 S/0126/64/018/001/0153/0155

AUTHOR: Lupakov, I. S.; Kuz'michev, Yu. S.

TITLE: Effect of niobium on composition of borides in high-boron steels

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 1, 1964, 153-155

TOPIC TAGS: high boron steel, high boron steel property, niobium boron steel, boron niobium steel, niobium boron steel property, niobium boride

ABSTRACT: High-boron steels containing more than 0.2% boron have low ductility and poor forgeability owing to the presence of a low-melting and brittle boride phase, which solidifies between dendrites. Hot pressure working and heat treatment can change the structure and mode of distribution of this phase, but they do not improve the ductility. Iron and chromium form primarily lower borides of the Me_2B type whose specific weight does not exceed 6.5 g/cm^2. Thus, in a low-carbon steel alloyed with 1% boron, the content of the boride phase

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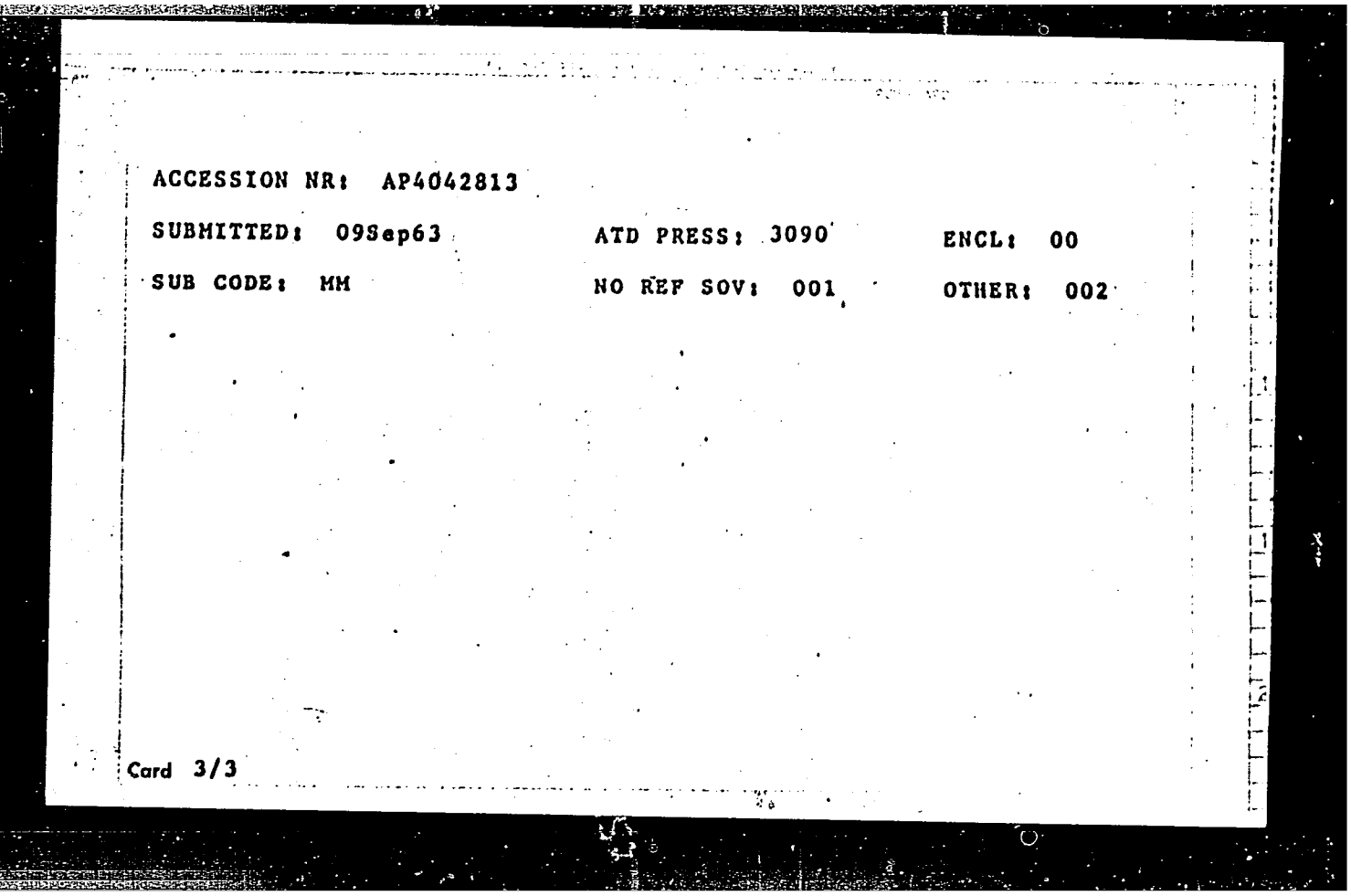
ACCESSION NR: AP4042813

is 12% by weight and 14% by volume. The notch toughness of this steel does not exceed 2 kgm/cm^2. An attempt has been made to reduce the volume and hence the detrimental effect of the boride phase by additional alloying of high-boron steel with niobium, which forms primarily higher borides of the MeB_2 type. Tests were made on three low-carbon steels, designated 1, 2, and 3, with respective contents of 0.03, 0.03, and 0.06% carbon, 2.16, 1.56, and 0.94% boron, and 0.7, 1.38, and 1.22% niobium. It was found that with an increasing niobium:boron ratio, the content of the boride phase dropped from 24.2 weight% in steel 1 to 9.0 weight% in steel 3. Simultaneously, the iron content in the boride phase dropped from 84.5% in steel 1 to 75.5% in steel 3; the niobium content in the boride phase rose from 2.1% in steel 1 to 7.0% in steel 3. It can therefore be expected that alloying with niobium will have a beneficial effect on the ductility and forgeability of high-boron steels. Orig. art. has three tables.

ASSOCIATION: none

Card 2/3



ACCESSION NR: AP4042813

SUBMITTED: 09Sep63 ATD PRESS: 3090 ENCL: 00

SUB CODE: MM NO REF SOV: 001 OTHER: 002

Card 3/3

LUPAKOV, I.S., kand. tekhn. nauk; MOSKVICHEV, G.S., kand. tekhn. nauk; ZAKHAROV, Yu.V., inzh.; GERASIMOV, V.V., doktor tekhn. nauk

Comparative study of the strength of some austenitic and austenite-ferrite steels against corrosion cracking. Teploenergetika 11 no.6: 40-43 Je '64. (MIRA 18:7)

L 23895-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b) MJW/JD

ACCESSION NR: AP5002943 S/0129/65/000/001/0025/0027

AUTHOR: Lupakov, I. S.; Suchkova, T. Ya.

TITLE: High-temperature relaxation strength of the KhN35VTYu alloy spiral cylindrical springs

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 1, 1965, 25-27, and right side of insert facing p. 40

TOPIC TAGS: relaxation, relaxation strength, spring relaxation strength, heat resistant alloy spring/KhN35VTYu alloy

ABSTRACT: Spiral cylindrical springs made of cold-drawn KhN35VTYu heat-resistant alloy wire (0.04% C, 0.17% Mn, 0.18% Si, 15.7% Cr, 35.35% Ni, 3.1% W, 1.21% Al, 2.7% Ti, 0.015% B) aged at 750C for 20 hr (without annealing) have been tested at 500C and 600C for 1500 hr to determine their relaxation strength. After 1500 hr at 500C the initial stress of 30 kg/mm^2 dropped to 23.1 kg/mm^2, and at 600C, to 21.6 kg/mm^2 (see Fig. 1 of the Enclosure). The hardness first increased to 580—590 HV, but began to drop after 300 hr. The hardness increase is apparently a result of additional aging, and the

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L 23895-65

ACCESSION NR: AP5002943

drop appears to be associated with the growth of austenite grains. The increase of stress from 20 to 30 kg/mm^2 has little or no effect on microstructure. Orig. art. has: 2 figures. [ND]

ASSOCIATION: none

SUBMITTED: 00	ENCL: 01	SUB CODE: MM
NO REF SOV: 003	OTHER: 000	ATD PRESS: 3178

Card 2/3

L 41583-65 EPA(s)-2/EWT(m)/EWP(w)/EPF(c)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(h)/EWA(c) Pf-4/Pad IJP(c) MJW/JD/HM/HW/WB/DM

ACCESSION NR: AP5009114 S/0089/65/018/003/0242/0245

54
52
B

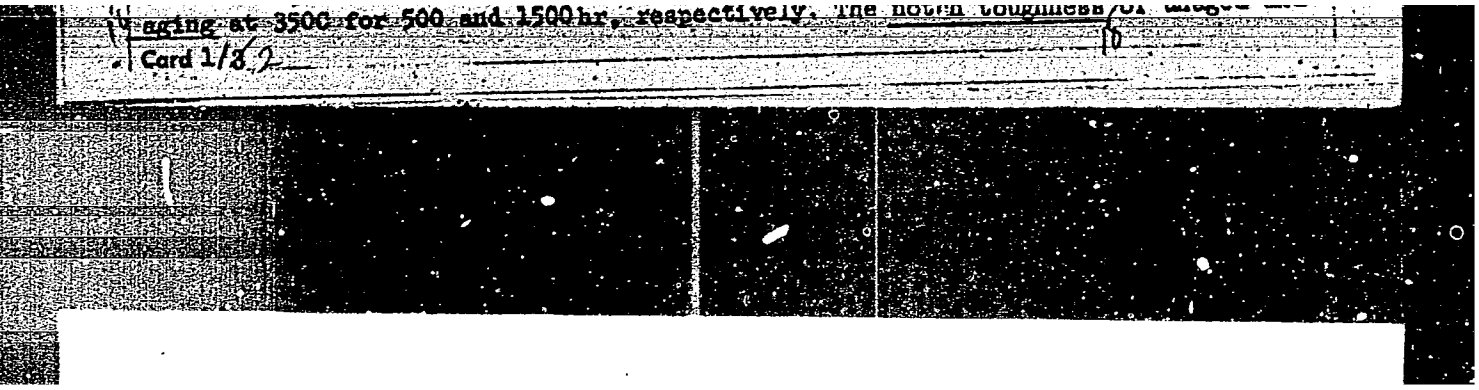
AUTHOR: Lupakov, I. S.; Vasil'yev, N. A.

TITLE: Stainless steel with a large thermal neutron capture cross section

SOURCE: Atomnaya energiya, v. 18, no. 3, 1965, 242-245

TOPIC TAGS: stainless steel, new austenitic stainless steel, thermal neutron absorbing steel, steel mechanical property, steel workability, steel weldability, steel corrosion resistance, EP 229 steel

ABSTRACT: The mechanical properties and workability are described of a new austenitic stainless steel, EP-229 (Kh17G21N15T), developed as a substitute for pure nickel and Kh18N10T stainless steel in some nuclear reactor parts. The new steel contains 0.1 max% C, 0.8 max% Si, 20.0—22.0% Mn, 16.0—18.0% Cr, 14.0—16.0% Ni, 0.35—0.70% Ti, 0.03 max% S, and 0.045 max% P. It has a thermal neutron capture cross section of 0.46/cm and can readily be pressure worked, cut, and welded. For example, high-quality tubes, 170 x 1.5 mm in diameter, have been made from centrifugally cast or forged billets. No hot cracking was observed in EP-229 steel welds, or in welding EP-229 steel to Kh18N10T steel. Fresh EP-229 steel welds had a tensile strength increased to 54.0 and 58.0 kg/mm after



aged welds varied from 7.2 to 11.2 kg-m/cm^2. The EP-229 steel welds did not crack with bending to 180° bend angle and exhibited no susceptibility to intercrystalline corrosion. The EP-229 steel is satisfactorily welded by electric arc, argon-shielded arc, and resistance seam welding. The EP-229 steel has a room temperature tensile strength of 58.7 kg/mm^2, a yield strength of 25.0 kg/mm^2, an elongation of 36.3%, a reduction of area of 53.7%, and a notch toughness of 10.2 kg-m/cm^2. At 350 and 500C the corresponding figures were 47.0 and 44.9 kg/mm^2, 19.2 and 17.3 kg/mm^2, 29.5 and 26.4%, and 47.3 and 46.7%, respectively. After austenization at 1050C, EP-229 steel had an austenitic structure with an amount of the χ-phase. Exposure at 350C for 500, 1000, and 4000 hr has no noticeable effect on the steel structure, and only an insignificant effect on the steel hardness and notch toughness. In water containing 0.06 mg/l chlorine ions and 0.025 mg/l oxygen, at 350C under a pressure of 170 atm, the steel corrosion rate was 0.22, 0.026, 0.0004, and 0.003 g (per m^2 per 24 hr) for 50, 300, 500, and 1000 hr, respectively. In water containing up to 1.0 mg/l oxygen, the corrosion rate at 50C was 0.29 g (per m^2 per 24 hr). The tests showed that EP-229 steel can be used as a thermal neutron-absorbing material instead of the Kh18N10T-type steel, Nimonic, and commercial nickel. Orig. art. has: 6 tables. [MS]

ASSOCIATION: none

Card 2/3 Submitted 11 Mar 64

(N) L 12091-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) IJP(c)

ACC NR: AP6000606 SOURCE CODE: UR/0129/65/000/012/0024/0026

MJW/JD/HW/JG

AUTHOR: Lupakov, I. S.; Vasil'yev, N. A.

64
62
B

ORG: none

TITLE: A new excess phase in chromium manganese nickel titanium steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1965, 24-26

TOPIC TAGS: steel, phase analysis, impact strength, brittleness, titanium / Kh17G21N15T (EP229) Cr-Mn-Ni-Ti steel

ABSTRACT: A study of Kh17G21N15T (EP229) steel revealed that the addition of 0.5% and more Ti to this steel causes the formation of a new excess phase in its structure. In appearance and position against the background of the principal structural component -- austenite -- this new phase resembles α-phase. In this connection, the effect of Ti on the formation of the new phase was investigated in five different melts of this steel, containing 0.30, 0.55, 0.70, 0.86 and 2.85% Ti, of which all save the first contained the new phase. Radiographic examination revealed that the new phase is apparently of the χ-phase type. This new phase binds not only Ti, Cr and Ni but also some amount of Mn, since its lattice period is smaller than the lattice period of pure Cr-Ni-Ti χ-phase (8.8 Å). The intensities of the interference maxima on the roentgenograms indicate that the amount of the new phase increases with

Card 1/2 UDC: 669.15-194:669.26'24'74:620.186 1

2

L 12091-66

ACC NR: AP6000606

increasing Ti content of the steel, as is confirmed by metallographic analysis. It is a nonmagnetic phase and it displays a micro-hardness that is 2-3 times as high as that of the austenite base. This new excess phase is a brittle phase and, when present in a large amount, it may reduce the steel's plasticity so much as to make hot deformation impossible; in addition, it markedly reduces impact strength (from 9 to 3 kg-m/cm^2). An experimental investigation of the thermal stability of the new phase at 700-1300°C showed that it can be dissolved by heating to 1150°C for 4 hr with subsequent air cooling; this leads to recovery of the steel's high plasticity and impact strength. Orig. art. has: 3 tables, 3 figures.

SUB CODE: 11, 13, 20/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 002

Card 2/2

L 29563-66 EWP(k)/EWT(m)/T/EWP(w)/EWP(t)/ETI IJP(c) JD/HW/JG

ACC NR: AP6018362 (A, N) SOURCE CODE: UR/0089/66/020/005/0440/0442

AUTHOR: Al'shevskiy, L. Ye.; Kuz'michev, Yu. S.; Kurochkina, L. M.; Lupakov, I. S.; Neymark, V. Ye.; Teulin, I. I.

54
B

ORG: none

TITLE: Effect of ultrasound on the ductility of high-boron stainless steels

SOURCE: Atomnaya energiya, v. 20, no. 5, 1966, 440-442

TOPIC TAGS: steel, stainless steel, high boron steel, boron containing steel, steel ultrasonic treatment, steel plasticity, steel ductility, steel tube, tube extrusion/Kh18N15 steel, Kh18N10 steel, Kh18N6G9 steel, Kh17 steel

ABSTRACT: The effect of ultrasound on the plasticity of Kh18N15, Kh18N10, Kh18N6G9 and Kh17 stainless steels containing 2—3.7% boron has been investigated. Boron at contents above 1.8% forms coarse hypereutectic borides which lower the steel plasticity. It was found, however, that the shape and size of the boride inclusions can be improved by applying ultrasonic vibration to liquid steel during cooling and solidification. The effect of ultrasound was found to depend on the metal temperature. Good results were obtained at a pouring temperature of 1500C. Ultrasound applied at this temperature broke down boride inclusions into small particles uniformly distributed throughout the mass of metal and considerably improved the steel plasticity, especially in rolling. Rolled tube billets 77 and 106 mm in

UDC: 621.789.2:669.15

Card 1/2

L 29563-66

ACC NR: AP6018362

0

diameter were successfully extruded at 1050—1140C with 80—86% reduction into satisfactory quality tubes 50 or 71 mm in diameter and 800 mm long with walls 5—6 mm thick. The structure of high-boron stainless steels also can be refined by homogenizing annealing at 1200—1250C. Orig. art. has: 3 figures. [ND]

SUB CODE: 13, 11/ SUBM DATE: 14Aug65/ ORIG REF: 003/ ATD PRESS: 5014

Card 2/2 CC

L 41036-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/WW/JG/WB

ACC NR: AP6013727 (N) SOURCE CODE: UR/0089/66/020/004/0330/0333

45
B

AUTHOR: Lupakov, I. S.; Parfenov, B. G.; Gromova, A. I.

ORG: none

TITLE: The influence of heat treatment on the corrosion resistance of zirconium alloys

SOURCE: Atomnaya energiya, v. 20, no. 4, 1966, 330-333

TOPIC TAGS: corrosion resistance, annealing, zirconium, niobium containing alloy, metal heat treatment, nuclear reactor material

ABSTRACT: The authors investigate the influence of heat treatment conditions on the corrosion stability of zirconium alloys containing 1.0 and 2.5% of niobium. These alloys have been developed in the Soviet Union for nuclear reactors. Results cover the corrosion of zirconium alloys in vapor at 400C and 100 atm and the appearance of samples held 950 hr. at high temperature-high pressure conditions. The authors investigate double annealing, annealing for 30 min at 700C, 50% cold rolling without and with 10 min 560C, and 30 min 700C annealing. An analysis of the results shows that the best corrosion resistance is achieved by double annealing. The effect is the strongest in zirconium alloy with 2.5% Nb. Orig. art. has: 2 figures.

Card 1/2 UDC: 669.018.8:546.831

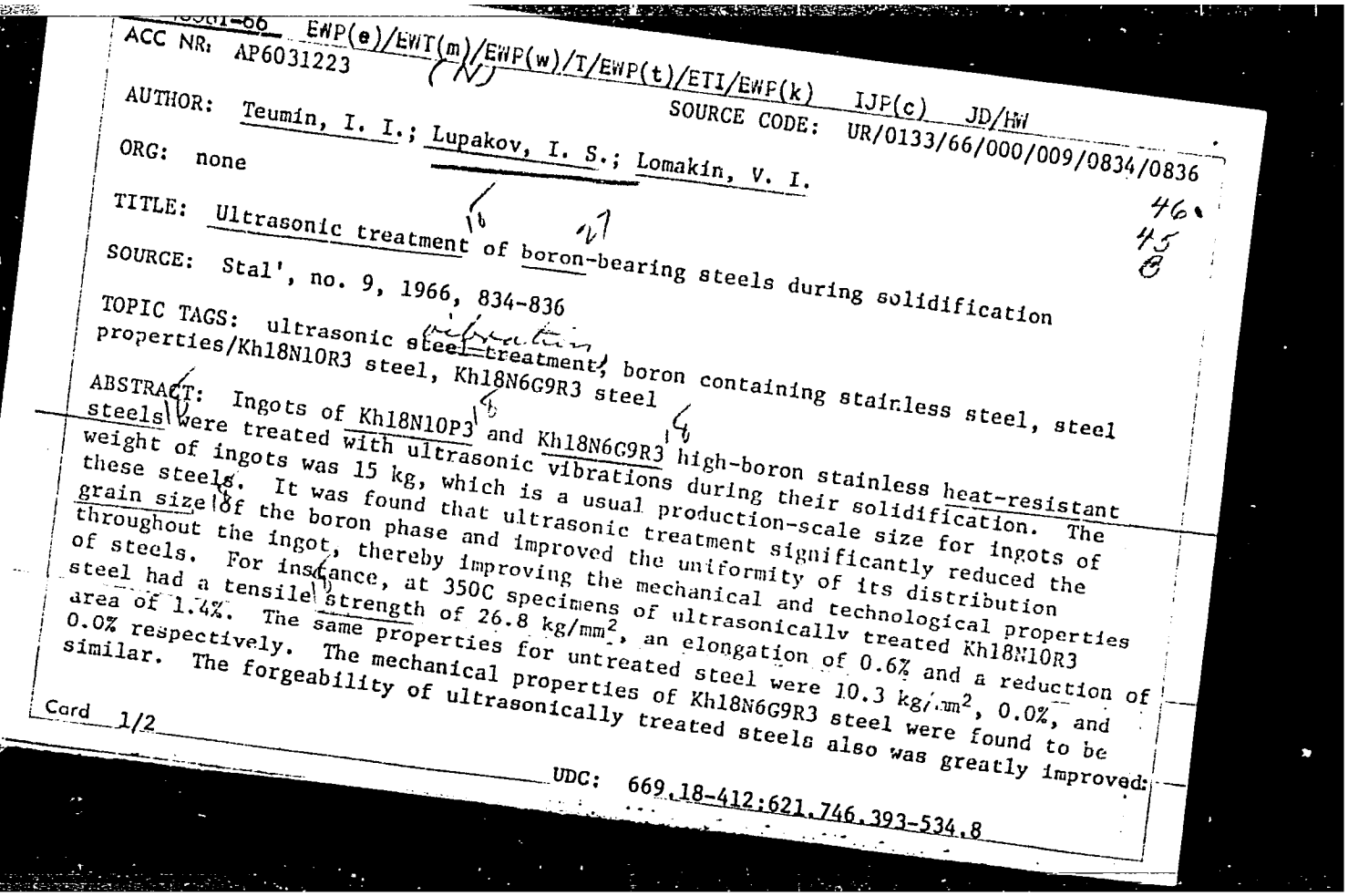
L 4103(

ACC NR:

0

SUB CODE: 11,18/ SUBM DATE: 29May65/ ORIG REF: 002/ OTH REF: 007

Card 2/2



EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW

ACC NR: AP6031223 (N) SOURCE CODE: UR/0133/66/000/009/0834/0836

AUTHOR: Teumin, I. I.; Lupakov, I. S.; Lomakin, V. I.

ORG: none

TITLE: Ultrasonic treatment of boron-bearing steels during solidification

SOURCE: Stal', no. 9, 1966, 834-836

TOPIC TAGS: ultrasonic steel treatment, boron containing stainless steel, steel properties/Kh18N10R3 steel, Kh18N6G9R3 steel

ABSTRACT: Ingots of Kh18N10P3 and Kh18N6G9R3 high-boron stainless heat-resistant steels were treated with ultrasonic vibrations during their solidification. The weight of ingots was 15 kg, which is a usual production-scale size for ingots of these steels. It was found that ultrasonic treatment significantly reduced the grain size of the boron phase and improved the uniformity of its distribution throughout the ingot, thereby improving the mechanical and technological properties of steels. For instance, at 350C specimens of ultrasonically treated Kh18N10R3 steel had a tensile strength of 26.8 kg/mm^2, an elongation of 0.6% and a reduction of area of 1.4%. The same properties for untreated steel were 10.3 kg/mm^2, 0.0%, and 0.0% respectively. The mechanical properties of Kh18N6G9R3 steel were found to be similar. The forgeability of ultrasonically treated steels also was greatly improved.

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UDC: 669.18-412:621.746.393-534.8

L 45581-66
ACC NR: AP6031223

a billet 30 x 60 x 80 mm was forged into a sheet bar 14 mm thick without difficulties. Orig. art. has: 5 figures. [TD]

SUB CODE: 11, 13, 20/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 5082

Card 2/2

LUPAL, N.V.

LUPAL,N.V., professor

On the economic feasibility of signal, central control, and block systems on single track railroads. Tekh.zhel.dor.7 no.10:14-16 O '48. (MLRA 8:11)

(Railroads--Signaling)

RAMLAU, P.N. (Docent); LUPAL, N.V. (Prof.)

Railroads--Electric Equipment

Calculating the line of centralized dispatching with line relays connected in parallel. Sbor. nauch. rab. LETIIS, no. 3, 1949.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

LUPAL, Nikolay Vasil'yevich, professor; PEREBOROV, Aleksandr Sergeyevich, dotsent; MATNIKOV, Vladimir Dmitriyevich, inzhener; SEDOV, Viktor Nikolayevich, dotsent; GAMBURG, Ye.Yu., redaktor; MAKITO, B.I., redaktor; KHITROV,P.A., tekhnicheskiy redaktor

[Automatic control and telemechanics at railroad stations; remote control of switches and signals] Avtomatika i telemekhanika na stantsiiakh; teleuprovlenie strelkami i signalami. Pod obshchei red. N.V.Lupala. Moskva, Gos.transp.zhel-dor. izd-vo, 1956. 395 p.
(Railroads--Signaling) (MLRA 9:12)
(Railroads--Switches)
(Remote control)

32 (3)

SOV/112-57-5-10929

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 5, p 194 (USSR)

AUTHOR: Bauman, V. E., Lupal, N. V.

TITLE: On the Problem of Utilizing Dispatcher's Traffic Control Lines Serving Single-Track Sections (K voprosu s zagruzke linii dispetcherskoy tsentralizatsii na odnoputnykh uchastkakh)

PERIODICAL: Sb. Leningr. in-ta inzh. zh.-d. transp., 1956, Nr 151, pp 366-377

ABSTRACT: With the existing system of the centralized traffic control, the code line is overcrowded with sendings, indications come late, and dispatcher's work is hampered. The Chair of Automation and Telemechanics, Leningrad Electrotechnical Institute of Railroad Transportation Engineers, surveyed the centralized traffic control system at a 10-block single-track RR section. The survey was conducted over 3.5 days. It was found that 53 control and 324 indication sendings were transmitted per hour on the average. The maximum

Card 1/3

On the Problem of Utilizing Dispatcher's Traffic Control Lines Serving Single . . .

number of sendings was 508 per hour; the minimum number, 248. The coefficient of hourly irregularity of line utilization (the ratio of maximum to average) was found to be 1.35. Average transmission time for one sending with a spacing between the sendings was found to be 4.5-5.0 sec. The maximum possible number of sendings was found to be 720-800 per hour. The average utilization of the investigated section was 52%, the maximum 71%. A 50-60% utilization of a code line causes almost no delays in transmission of indications that could adversely affect normal dispatcher's work or train traffic. Delays in indications arriving at the time of maximum line crowding are short and, according to the dispatchers, do not disturb normal operation. For that reason, speeding up the signaling is not a dire necessity. A high-speed centralized traffic control system will be particularly efficient if the line is utilized in a nonuniform manner and at the moments of train crossing where the blocks are identical. The following conclusions are offered:

SOV/112-57-5-10929

On the Problem of Utilizing Dispatcher's Traffic Control Lines Serving Single- . . .

(1) a centralized traffic control system for a single-track section having a block nonidentity factor of 0.6-0.7 should be designed on the basis of a 50% code-line utilization; (2) with a nonidentity factor over 0.7, all the more for the sections with identical blocks, the 50% basis of line utilization does not exclude considerable overcrowding of the line at some moments; in such cases a high-speed centralized traffic control system should be used because it cuts line overcrowding and makes an increased number of units possible.
4 illustrations.

T.I.L.

Card 3/3

AZBUKIN, P.A., prof.; LUPAL, N.V.,prof.; KOTLYARENKO, N.F., dots.;
NEUGASOV, N.M., dots.; RYAZANTSEV, B.S.,kand. tekhn. nauk,;
KIRILLOV, M.M., kand. tekhn.nauk

Outstanding specialist in the field of railroad automatic and remote control. Avtom., telem. i sviaz' 2 no. 8:43 Ag '58.
(MIRA 11:8)

(Maishev, Petr Vladimirovich, 1888-)

LUPAL, N.V., prof.

Problems in automating the control of switches and signals. Avtom., telem. i sviaz' 4 no.10:3-6 O '60. (MIRA 13:10)

1. Leningradskiy institut inzhenernoy zheleznodorozhnogo transporta.
(Railroads—Signaling) (Railroads--Switches)
(Automatic control)

LUPAL, Nikolay Vasil'yevich; BOSIN, Matvey Itskovich; PEREBOROV, Aleksandr Sergeyevich; SMIRNOVA, Appolinariya Vasil'yevna; Kyler, Aleksandr Aleksandrovich; TSUKANOV, T.T., kand. tekhn.nauk, retsenzent; SHUPLOV, V.I., kand.tekhn.nauk, retsenzent; GLUZMAN, I.S., kand.tekhn.nauk, red.; USENKO, L.A., tekhn.red.

[Theoretical principles of automatic and remote control] Teoreticheskie osnovy avtomatiki i telemekhaniki. By N.V. Lupal i dr. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1961. 414 p.

(MIRA 14:12)

(Automatic control) (Remote control)

LUPAL, N.V., kand.tekhn.nauk; GUDKOV, A.V., inzh.; MARUSHKO, F.I., kand. tekhn.nauk

Operational and technical requirements for the automation of centralized traffic control. Zhel.dor.transp. 43 no.2:46-47 F '61. (MIRA 14:4)

(Railroads—Signaling—Centralized traffic control)
(Automatic control)

LUPAL, N.V., prof.

"Automatic control, remote control, and communications in railroad transportation" by D.P.Borisov, A.IA.Kormilitsyn, and K.N.Erpylov. Avtom., telem.i sviaz' 6 no.1:47 Ja '62. (MIRA 15:3)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta.
(Railroads--Signaling) (Railroads--Electronic equipment)
(Borisov, D.P.) (Kormilitsyn, A.IA.) (Erpylov, K.N.)

LUPAL, N.V., prof.

Evaluation of networks according to their reliability. Avtom., sviaz' 7 no.2:10-13 F '63. (MIRA 16:3)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta imeni akademika Obraztsova.
(Railroads—Signaling) (Railroads—Electric equipment)

LUPAL, N.V., prof.

Feedback in blocking and interlocking devices and some problems concerning the further automation of these systems. Sbor. trud. LIIZHT no.179:3-8 '61. (MIRA 16:11)

LUPAL, N.V., prof.

Training of teachers and research students in railroad automation. Avtom., telem. i sviaz' 7 no.12:16-18 D '63. (MIRA 17:4)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta.

IUPAI, N.V., prof.

Automatic train traffic control systems. Avtom., telem. i svias' 8 no.11:1-4 N '64. (MIRA 17:12)

1. Leningradskiy ordena Lenina institut inzhenerov zheleznodorozhnogo transporta imeni akademika V.N. Obraztsova.

LUPALO, I.G.; AYZIKOV, D.V.; KOSTRIKINA, Z.I.; YUKHVETS, M.A.; VERKHOVTSEV, I., red.; DANILINA, A., tekhn.red.

[Builders of socialism tell their stories; reminiscences of some workers who built socialism in the U.S.S.R.] Govoriat stroiteli sotsializma; vospominaniia uchastnikov sotsialisticheskogo stroitel'stva v SSSR. Moskva, Gos.izd-vo polit.lit-ry, 1959. 415 p. (MIRA 13:3)

(Russia--Industries) (Efficiency, Industrial)

LUPAN, Anna

According to the example of Soviet innovators. Sov.profsoiuzy 2 no.5: 73-76 My '54. (MLRA 7:6)

1. Predsedatel' fabrichnogo komiteta profsoyuza shveynoy fabriki im. George Georgiu-Dezh. (Rumania--Labor and laboring classes) (Labor and laboring classes--Rumania)

PLEKHOV, N.D.; LUPAN, A.M.; ABRAMOV, L.S.; BOGDANOVSKIY, V.S.; REZNICHENKO, V.I.; GREKOVA, Z.I.; GOLUB, P.I.; ENDRZHEYEVSKIY, Ye.V.; BELOSHKURSKIY, P.I.; PODDUBNAYA, N.A.; MIROSHNIKOV, P.P.; KORNEYEVA, L.P.; ZLOTNIKOV, G.Z.; PAVLIS, G.F.; SKACHKOV, I.A.; SEDELEVA, Ye.P.; POLTORATSKAYA, E.A., red.; LEUSHCHENKO, N.L., tekhn.red.

[Three-dimensional apartment house construction] Ob"emnoe domostroenie. Kiev, Gosstroiizdat USSR, 1963. 165 p. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.

RUMANIA/Farm Animals - Swine Q-5

Abs Jour : Ref Zhur - Biol., No 6, 1958, No 26220

Author : Lupan L.
Inst : Not Given
Title : The Utilization of Ensilaged Potatoes as Food for Swine (Ispol'zovaniye silosovannogo kartofelya na korm svin'yam)

Orig Pub : Probl. zootehn., 1957, No 2, 35-39

Abstract : It was established that steamed and ensilaged potatoes, as compared with fresh ones, contain: dry substance (respectively) 26.5 and 25%, protein 2.2 and 2.0%, non-nitrogenous extractive substances 21.7 and 21.0%, digestible protein 8 and 9 g./kg. It is recommended to ensilage steamed potatoes with 25% of carrots in order to enrich them with carotene. Potatoes, steamed and ensilaged in concrete pits, contain 1.35% of free lactic acid and 0.46% of acetic acid. Young pigs 4-6 months of age receiving this silage in the amount of 40-50% of their ration, showed a higher weight gain (by 19%) as compared with those receiving rations with concen-

Card : 2/2

45

RUMANIA/Farm Animals - Swine Q-5

Abs Jour : Ref Zhur - Biol., No 6, 1958, No 26220

trates. A feed of 4 kg. of silage brings about a daily weight gain of 200-250 g. Potato crop from 1 ha. may give 750 kg. of pork.

Card : 2/2

ROMANIA / Farm Animals. General Problems Q-1

Abs Jour : Ref. Zhur-Biol., No 6, 1958, 26094

Author : Lupan L.

Inst : Not given

Title : The Corn for Green Fodder (Kukuruza na zelonyy korm)

Orig Pub : Probl.zootehn., 1957, No 5, 40-42

Abstract : The article advocates in particular the technique proposed by Soviet researchers, namely, sowing of the corn mixed with Sudan grass to be used as green fodder as well as, for the same purpose, sowing of the corn and leguminous plants mixed together.

Card 1/1

4

LUPAN, M.

Lupan, M. - Plan of activities for 1955 of the Section of Construction of the Central Council of the Scientific Association of Engineers and Technicians. Session of the Central Council of the Scientific Association of Engineers and Technicians. p.123.

SO: Monthly List of East European Accessions List (EEAL) LC, Vol 4, No. 11 November 1955, Uncl.

Lupan, M.

LUPAN, M.

LUPAN, M. New methods for exploiting marble quarries and stone crushing quarries in Soviet Russia. p. 742.

No. 12, 1956.
INDUSTRIA CONSTRUCTIILOR SI A MATERIALELOR DE CONSTRUCTII.
TECHNOLOGY
RUMANIA

So: West European Accession, Vol. 6, No. 5, May 1957

LUPAN, M.

Builders! Do you need silicocalcareous bricks? p. 2.
(CONSTRUCTORUL. Vol. 9, no. 374, Mar. 1957, Bucuresti, Rumania)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957. Uncl.

LUPAN,M., ing.; NICULESCU,D.D., ing.; TANNENBAUM,M., ing.; CAMBUREANU,A., ing.; LOBEL, L., ing.; DUMITRESCU, D.V., ing.

Some aspects and results of technical and scientific cooperation between the Institute of Building Research and Construction Building Economics, and the Progresul Plant of Prefabricated Parts, Bucarest. Rev constr si mat constr 15 no.9:493-497 S'63.

ELIADE, D., ing.; FURDUIESCU, G., ing.; LUPAN, M., ing.

Development of the production and utilization of prefabricated parts of reinforced concrete in constructions. Pt.2. Rev constr si mat constr 16 no.9:451-462 S '64.

1. Head of Technical Department, State Committee for Constructions, Architecture, and Town Planning (for Eliade). 2. Director General, Ministry of the Construction Industry (for Furduiescu). 3. Assistant Scientific Director, Institute of Building Research and Construction Economics (for Lupan).

ELIADE, D., ing.; FURDUIESCU, G., ing.; LUPAN, M., ing.

Development of production and utilization of prefabricated parts of reinforced concrete in constructions. Pt.1. Rev constr si mat constr 16 no.8:425-436 Ag '64.

1. Head of Technical Section, State Committee for Construction, Architecture, and Town Planning (for Eliade). 2. Director General, Ministry of the Construction Industry (for Furduiescu). 3. Assistant Scientific Director, Institute of Building Research and Construction Economics (for Lupan).

LUPAN, S.

Aplicatiile pasnice ale energiei atomice (Atomic Energy for Peaceful Purposes); a book review. p. 2. TEHNICA NOUA. (Asociatia Stiintifica a Inginerilor si Tehnicienilor) Bucuresti. Vol. 2, no. 27 Dec. 1955

So. East European Accessions List Vol. 5, No. 9 September, 1956

CA 6

Hexahydroxy antimony salts. G. Spacu and Sanda Lupan (Univ. Bucharest, Rumania). *Analele Acad. Rep. Populare Romîne, Sect. Ştiinţe Mat., Fiz. Chim., Ser. A*, 2, *Mem.* 22, 20 pp.(1949)(French summary).—To prove the structure of the pyroantimonates, $M^{I}Sb(OH)_6$, $[Sb(OH)_6]H.Bzd.(HCl)$ (I), $[Sb(OH)_6]H.Bzd(HCl)_2.Bzd.(HCl)_2.2H_2O$ (II), $[Sb(OH)_6]_2H_2.Bzd.3H_2O$ (III), $[Sb(OH)_6]H.Told.(HCl)$ (IV), $[Sb(OH)_6]_2H_2.Tol_2$ (V), $[Sb(OH)_6]_2[Cr(NH_3)_6].3H_2O$ (VI), $[Sb(OH)_6]_3[Co(NH_3)_6](SO_4)(OH).2.5H_2O$ (VII), and $[Sb(OH)_6]_3[Cr(NH_3)_6](SO_4)(OH).2.5H_2O$ (VIII) were prepd. by treating the K pyroantimonate with the chlorides and sulfates of benzidine and tolidine (I–V) and by exposing an aq. soln. of the K salt to the action of some metalammines (VI–VIII). They all dissolve in dil. HCl with decompn. except III and V, which are dissolved only in the presence of tartaric acid. I hydrolyzes in H_2O at room temp. liberating the hexahydroxyantimonic acid, which loses a half H_2O when dried. When exposed to the dehydrating action of $CaCl_2$ or H_2SO_4 all compds. lose 1.5–3 mols. H_2O. O. Aufleger

CA

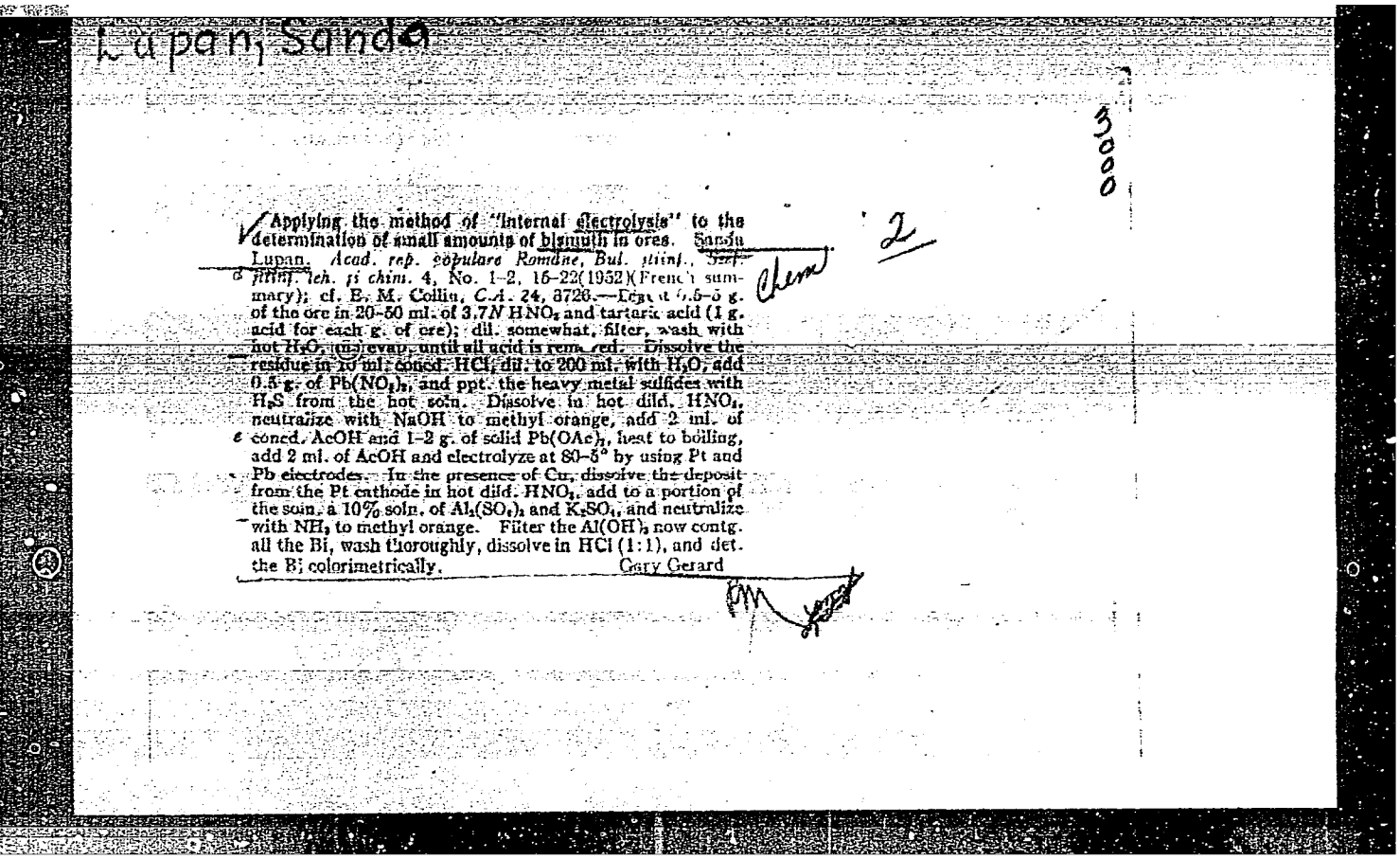
Hexahydroxy stannates. G. Spacu and Sanda Lupan (Univ. Bucharest, Roumania). *Analele Acad. Rep. Popular. Romîne, Sect. Ştiinţe Mat., Fiz. Chim., Ser. A*, 2, Mem. 34, 16 pp. (1949) (French summary). — Chlorides and sulfates of benzidine and tolidine and complex metalammines are added to K stannate to prep. 8 new complex salts: (1) $H_2[Sn(OH)_6]$.(bzd.HCl)$_2$, (2) $H_2[Sn(OH)_6]$.bzd., (3) $H_2[Sn(OH)_6]$.(told.HCl)$_2$.2H_2O, (4) $H_2[Sn(OH)_6]$.told.H_2O, (5) $[Sn(OH)_6]$.$[Cu(NH_3)_4(H_2O)_2]$, (6) $[Sn(OH)_6]Cu$, (7) $[Sn(OH)_6][Co(NH_3)_6(SO_4)]_2$.4$H_2O$, (8) $[Sn(OH)_6][Cr(NH_3)_6(SO_4)]_2$.6$H_2O$. They are all cryst. compds., sol. in warm dil. HCl, unstable in hot H_2O. Examples of prepn: (1) 0.75 g. $K_2Sn(OH)_6$ and 1.28 benzidine.HCl are mixed well in a mortar while 25 cc. H_2O is added stepwise, filtered after 10 min. without washing, dried on porous plate at room temp., analyzed after 24 hrs. (Sn by the Löwenthal method, benzidine-N by Kjeldahl). (5) to 1 g. K stannate dissolved in 6 cc. water + 4 cc. concd. NH_4OH 1.5 g. $Cu(NH_3)_4SO_4$ is added, mixed, and cooled on ice. After 20 min. the blue crystals are filtered, and washed twice with EtOH satd. with NH_3, kept over solid NaOH in a desiccator in NH_3 atm. for 2 hrs., then analyzed. The formula for K stannate is shown to be $K_2[Sn(OH)_6]$, as suggested by Belucci and Paravano (1905).

Gerhard Auffeger

CA

7

A new gravimetric method for the separation of manganese from iron and aluminum. G. Spacu and Sanda Lupan (Univ. Bucharest, Rumania). *Analele Acad. Rep. Populare Romîne, Ser.: Mat., Fiz., Chim.* **3**, *Mem.* 25, 18 pp. (1950) (French summary).—Mn^{++} can be sepd. from Fe and Al as $[MnPy_4(SCN)_2]$. Treat about 30–40 ml. of the slightly acidic soln. contg. Mn, Fe, and Al ions with 2 g. tartaric acid and enough pyridine to neutralize the acid and leave a slight excess. Shake the mixt. and cool to 5–7°. To the cold soln. add 2.8 g. of solid NH_4SCN. Shake and let stand. After 10 min. filter through a dried and weighed porous crucible. Wash the ppt. with a little dild. reagent until it is free from Fe and Al. Then wash with 1 ml. of 15% pyridine in abs. EtOH and finally with 2 drops pyridine in 5 ml. ether. Dry and weigh. Gerhard Aufleger

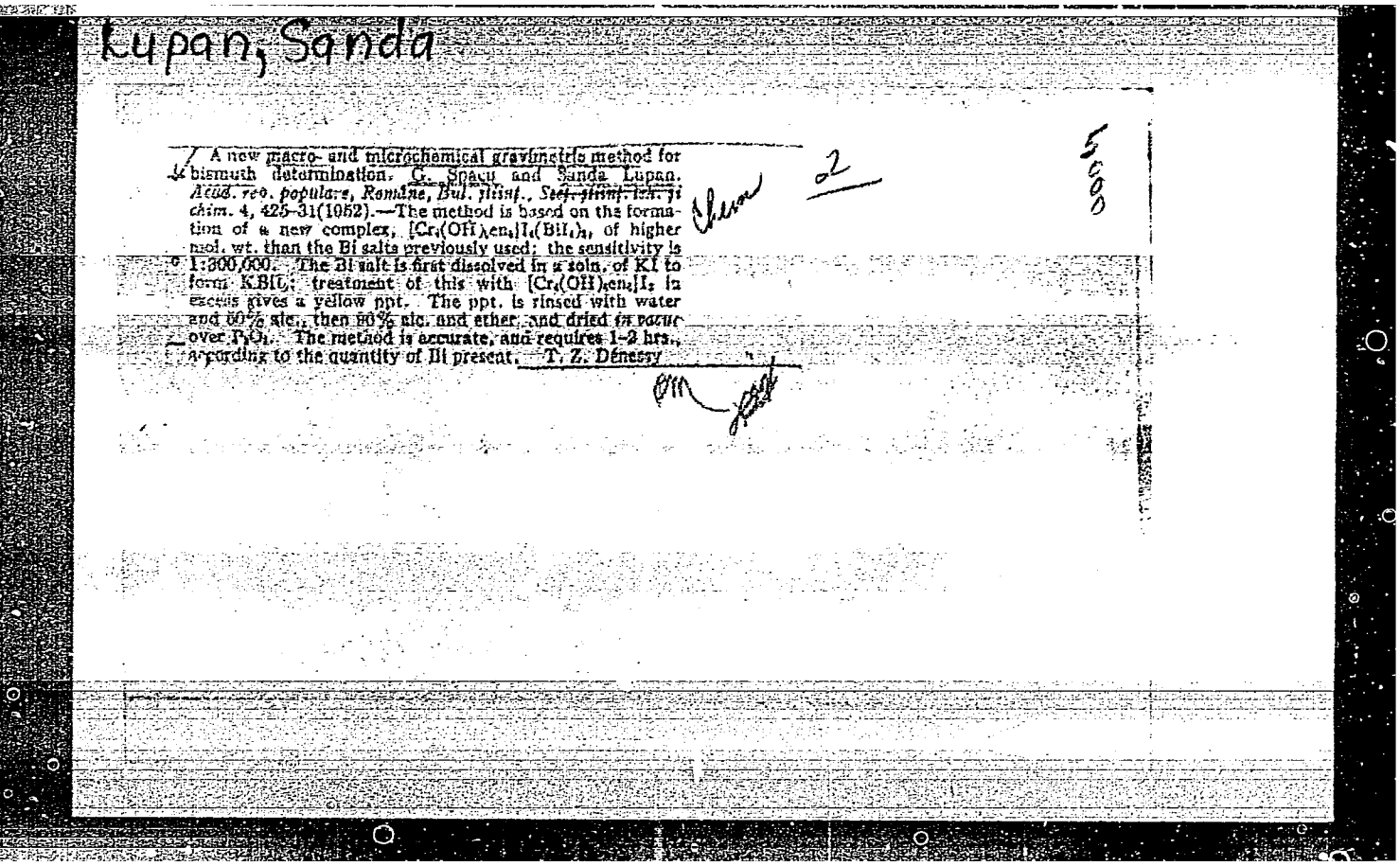


Lupan, Sanda

3000

Chem 2

Applying the method of "internal electrolysis" to the determination of small amounts of bismuth in ores. Sanda Lupan. *Acad. rep. populare Romîne, Bul. ştiinţ., Sect. ştiinţ. tehn. şi chim.* 4, No. 1–2, 16–22(1952)(French summary); cf. E. M. Collin, *C.A.* 24, 3726.—Digest 0.5–5 g. of the ore in 20–50 ml. of 3.7*N* HNO_3 and tartaric acid (1 g. acid for each g. of ore); dil. somewhat, filter, wash with hot H_2O, and evap. until all acid is removed. Dissolve the residue in 10 ml. concd. HCl, dil. to 200 ml. with H_2O, add 0.5 g. of $Pb(NO_3)_2$, and ppt. the heavy metal sulfides with H_2S from the hot soln. Dissolve in hot dild. HNO_3, neutralize with NaOH to methyl orange, add 2 ml. of concd. AcOH and 1–2 g. of solid $Pb(OAc)_2$, heat to boiling, add 2 ml. of AcOH and electrolyze at 80–5° by using Pt and Pb electrodes. In the presence of Cu, dissolve the deposit from the Pt cathode in hot dild. HNO_3, add to a portion of the soln. a 10% soln. of $Al_2(SO_4)_3$ and K_2SO_4, and neutralize with NH_3 to methyl orange. Filter the $Al(OH)_3$ now contg. all the Bi, wash thoroughly, dissolve in HCl (1:1), and det. the Bi colorimetrically. Gary Gerard



Lupan, Sanda

A new macro- and microchemical gravimetric method for bismuth determination. C. Spacu and Sanda Lupan. *Acad. rep. populare, Romîne, Bul. ştiinţ., Sec. ştiinţ. fiz. şi chim.* 4, 425–31(1952).—The method is based on the formation of a new complex, $[Cr_4(OH)_6en_4]I_4(BiI_4)_4$, of higher mol. wt. than the Bi salts previously used; the sensitivity is 1:300,000. The Bi salt is first dissolved in a soln. of KI to form $KBiI_4$; treatment of this with $[Cr_4(OH)_6en_4]I_2$ in excess gives a yellow ppt. The ppt. is rinsed with water and 60% alc., then 80% alc. and ether, and dried *in vacuo* over P_2O_5. The method is accurate, and requires 1–2 hrs., according to the quantity of Bi present. T. Z. Dénesy

2

5000

LUPAN, Sanda

"Eine neue gravimetrische Methods zur Bestimmung des Quecksilbers." Revue de Chemie, Vol. 2, 1954, Bucharest.

LUPAN, S.

RUM.

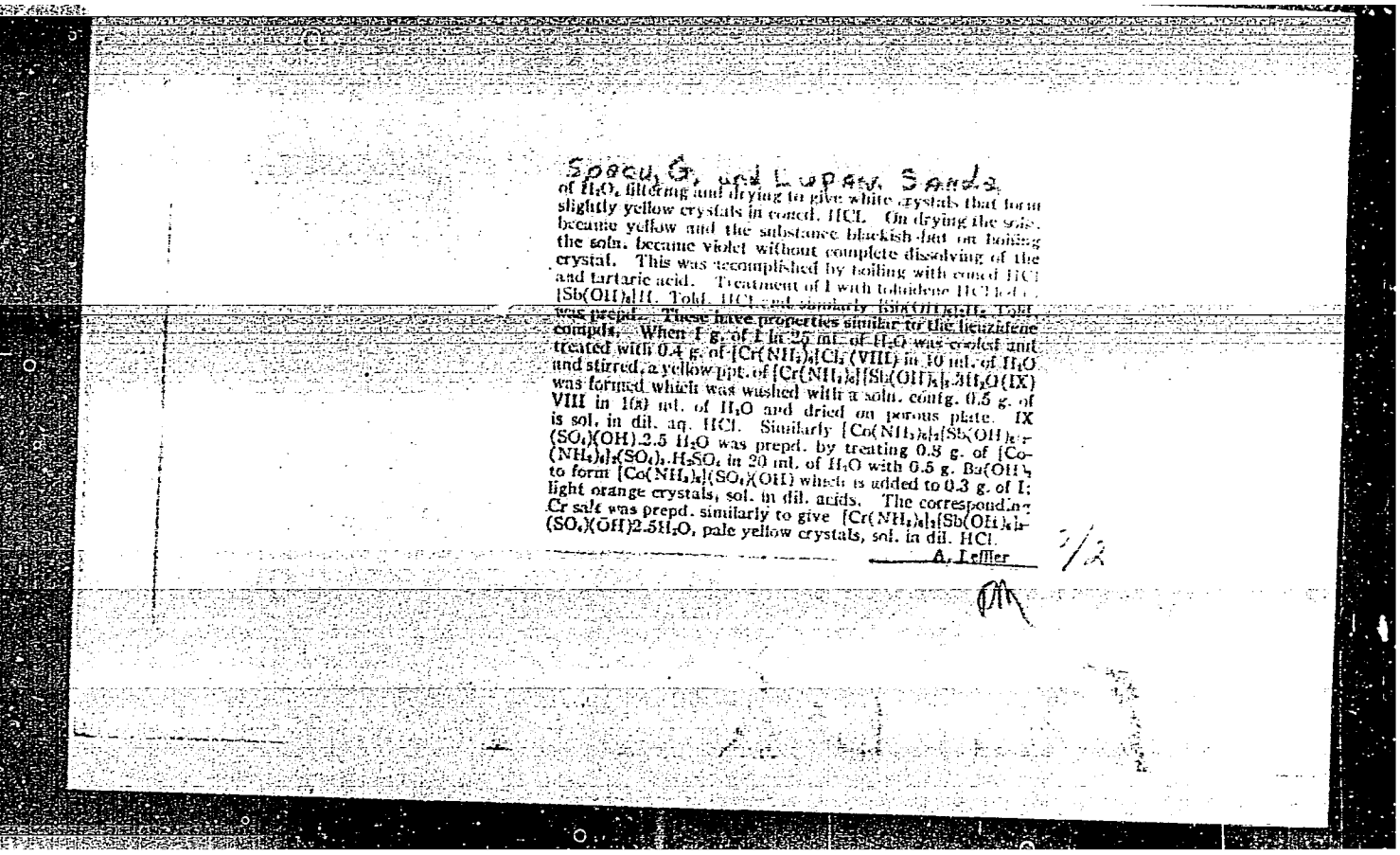
Preparation of potassium salts from indigenous minerals. Sanda Lupan (Univ. Bucharest, Rumania) *Acad. Rep. Popular Române, Studii Cercetări Chim.* 2, 15-25(1954) (French summary).—Mixts. of finely ground orthoclase feldspars contg. up to 11% K_2O (1 part), $CaCl_2$ (1 part), and $CaCO_3$ (2.5 parts) were calcined 2.5 hrs. in a rotary kiln at 800-50°, cooled, ground, water-leached, and filtered. KCl in 85-95% yields was sepd. from $CaCl_2$ by fractional crystn. Leach residues were utilized as portland cement builders.

Gerard Aufleger

The determination of silicon dioxide in barite, in the presence of fluorine. Sanda Lupan. *Rev. chim.* (Bucharest) 5, 180–1(1954).—A method described for the detn. of small quantities of Siin Al (*ibid.* No. 3 (1951)) was modified for the purpose. A specimen of 0.5 to 1 g. is decompd. by soln. in Na_2CO_3 and introduced into a calibrated tube. The insol. residue is dissolved in HCl and put into another calibrated tube. The colorimetric detn. is then done by utilizing the coloration obtained by the silico-molybdenic complex $H_4[Si(Mo_2O_{10})_4].H_2O$. The method can be applied to specimens contg. a max. of 15–16% SiO_2. F. D. Goodman

Lupan, Sanda

The salts of pyroantimonates. C. Spacu and Sanda Lupan. *Rev. chim., Acad. rep. populaire Roumaine* 1, 5–14(1956)(in French).—A no. of new complex pyroantimonates were prepd. and their ease of dehydration studied. $KSb(OH)_6$ (I) (0.68 g.) and 0.85 g. of benzidene HCl (II) were mixed with 5 ml. of H_2O in a small mortar, stirred for 8–9 min., filtered under vacuum, and dried on a porous plate to yield $[[Sb(OH)_6]H.Bzd.HCl]_2$ (III), white crystals, sol. in dil. aq. HCl. III was also prepd. from $[[Sb(OH)_6]Bzd.HCl]_2.Bzd.HCl$ (IV) by agitation with 20 ml. of abs. EtOH for 10 min., filtering, and washing twice with alc., and twice with Et_2O. Treating III with H_2O at room temp. gave $H[Sb(OH)_6]$ (V) which loses $^1/_2$ H_2O on drying to give $Sb_2O_5.6H_2O$ (VI) whereas treatment with 30% Na_2CO_3 soln. gave $Na[Sb(OH)_6]$ and 50% EtOH caused decompn. I (0.68 g.) and 1.28 g. of II were treated in a mortar with 10 ml. of H_2O for 10 min., filtered, and dried on a porous plate to give IV, white crystals, sol. in dil. aq. HCl. IV in H_2O gave V which then went to VI on drying. VI was prepd. by treating 0.5 g. of III with 100 ml. of H_2O, agitating for 1 hr., adding 50 ml. more of H_2O, agitating for 30 min. more, filtering and drying at room temp. $[Sb(OH)_6]_2H_2.Bzd.3H_2O$ (VII) was prepd. from 0.75 g. of I and 0.45 g. of II in 15 ml.



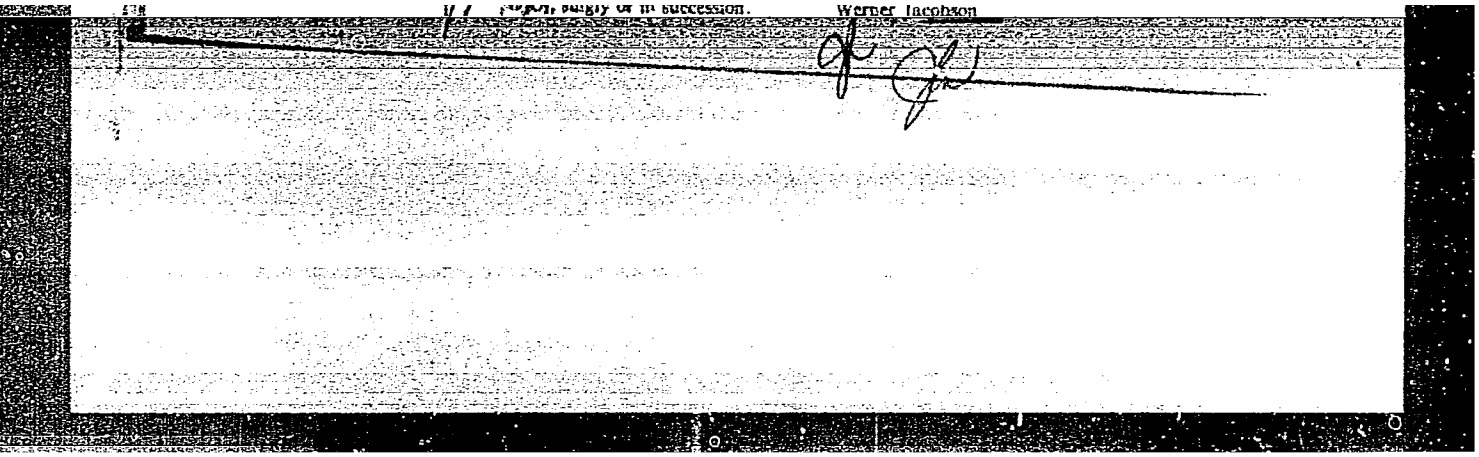
Spec. G. and Lupaw, Sand.

of H_2O, filtering and drying to give white crystals that turn slightly yellow crystals in concd. HCl. On drying the solid became yellow and the substance blackish-but on boiling the soln. became violet without complete dissolving of the crystal. This was accomplished by boiling with concd HCl and tartaric acid. Treatment of I with toluidene HCl [illegible] $[Sb(OH)_6]H$. TolH. HCl and similarly $[Sb(OH)_6]_2H_2$ TolH was prepd. These have properties similar to the benzidene compds. When 1 g. of I in 25 ml. of H_2O was cooled and treated with 0.4 g. of $[Cr(NH_3)_6]Cl_3$ (VIII) in 10 ml. of H_2O and stirred, a yellow ppt. of $[Cr(NH_3)_6][Sb(OH)_6]_3.3H_2O$ (IX) was formed which was washed with a soln. contg. 0.5 g. of VIII in 100 ml. of H_2O and dried on porous plate. IX is sol. in dil. aq. HCl. Similarly $[Co(NH_3)_6]_2[Sb(OH)_6]_2(SO_4)(OH).2.5\ H_2O$ was prepd. by treating 0.8 g. of $[Co(NH_3)_6]_2(SO_4)_3.H_2SO_4$ in 20 ml. of H_2O with 0.5 g. $Ba(OH)_2$ to form $[Co(NH_3)_6](SO_4)(OH)$ which is added to 0.3 g. of I; light orange crystals, sol. in dil. acids. The corresponding Cr salt was prepd. similarly to give $[Cr(NH_3)_6]_2[Sb(OH)_6]_2(SO_4)(OH)2.5H_2O$, pale yellow crystals, sol. in dil. HCl.

A. Leffler

Distr: 4E3d

Gravimetric determination of cerium and thorium in minerals. Sanda Lupaşu. *Rev. chim.* (Bucharest) 7, 681–5 (1956).—The methods apply to minerals such as monazite, cerite, orthite, allanite, thorite, and thorianite. The Ce + Th are pptd. 1st as oxalates. The conditions are outlined by which the copptn. of Al and (or) Fe can be avoided, or how coppid. Al and Fe can be removed (concn., temp., and addnl. HCl to bring the pH to 1). The conditions by which Th can be pptd. with KIO_3 without copptn. of Ce or how any coppid. Ce can be removed by a reppin. with $C_2O_4H_2$ are also outlined. The method is based on 1st weighing $ThO_2 + CeO_2$, and then ThO_2 alone. Procedures are also given for the decompn. of the minerals and the dissoln. of Ce and Th. The 1st step is always a treatment with



COUNTRY : RUMANIA
CATEGORY : Chemical Technology. Chemical Products and Their H
Application. Elements. Oxides. Mineral Acids.*

ABS. JOUR. : RZhKhim., No 17, 1959, No. 61415

AUTHOR : Poton, E.; Lupan, S.
INSTITUTE : -
TITLE : Derivation of Potassium Salts and of Portland Cement Clinker from Local Ores.

ORIG. PUB. : Rev. chim., 1957, 8, No 11, 694-700

ABSTRACT : In the calcining of a mixture composed of feldspar or of glauconite sand with $CaCl_2$ at 1300° for 30 minutes, more than 80% of K_2O (as KCl) was volatilized. A cement clinker of good quality was produced simultaneously. For the recovery of KCl, a laboratory automizing absorber was employed in which, the absorbing solution as a fine mist was contacted with the KCl mist countercurrently. In a contineous operation, heat contained in the KCl--gas was utilized for the evaporation of the

*Bases, Salts.

Card: 1/2

COUNTRY :
CATEGORY :

ABS. JOUR. : RZhKhim., No 17, 1959, No. 61415

AUTHOR :
INSTITUTE :
TITLE :

ORIG. PUB. :

ABSTRACT Con'd : solution from which KCl was subsequently crystallized out. Cements, thus derived from the glauconite sand, by both the wet and dry methods, were found to be not inferior to portland cements in their chemical composition as well as in their physico-chemical properties. Bibliography includes 28 titles. -- Ya. Matlis.

Card: 2/2

LUPAN, S.

RUMANIA / Cosmochemistry. Geochemistry. Hydro- D
chemistry.

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 26842.

Author : Codarcea, A., Ianovici, V., Iova, I., Lupan, S., and Papacostea, C.

Inst : Rumanian Academy of Sciences.

Title : Rare Earths in the Ditrau Massif.

Orig Pub: Commun Acad RPR, 8, No 3, 321-328 (1958) (in Rumanian with French and Russian summaries).

Abstract: A number of outcrops of ore-bearing formation have been found in the alkali rocks in the northwestern part of the Ditrau Massif (Hungarian Autonomous Region [Transylvania]). During their investigation, the paragenesis of the sulfurous compounds (pyrite, sphalerite, chalcopyrite, galenite, molybdenite) and minerals containing TR [sic] (monazite, xenotime,

Card 1/2

E

RUMANIA/Analytical Chemistry. Analysis of Inorganic Compounds.

Abs Jour: Ref Zhur-Khimiya, No 21, 1958, 70541.

Author : Lupan, Sanda
Inst :
Title : A Complexometric Determination of Thorium in the Presence of Cerium.

Orig Pub: R v. chim., 1958, 9, No 2, 101-102.

Abstract: Th^{4+} (1-20 mg) in the presence of a considerable amount of Ce^{3+} (up to 500 mg) is determined by titration with a complexone III solution in a hydrochloric acid medium using pyrocatechin violet as the indicator. A weighed amount of the Th and Ce oxides separated prior to the analysis (RZhKhim, 1957, 44889) are dissolved by heating

Card : 1/2

6

RUMANIA/Analytical Chemistry. Analysis of Inorganic Compounds. E

Abs Jour: Ref Zhur-Khimiya, No 21, 1958, 70541.

is determined by its various forms. La, Pr and Nb do not interfere with the determination.

Card : 3/3 7

COUNTRY : Rumania
CATEGORY :

ABS. JOUR. : RZKhim., No. 22 1959, No. 79127

AUTHOR : Lupan, S., Potop, P., Babes, A., and Panaitescu, C.
INST. : Not given
TITLE : The Extraction of Potassium Salts from Soluble-salt Deposits. Preliminary Data. Communication I

ORIG. PUB. : Rev Chim, 9, No 7-8, 402-408, Discussion 408 (1958)

ABSTRACT : Data are presented on the composition of the potassium salt deposits in the Trotusha [translit-erated] basin (Rumania) which represent a mixture of three salts: sylvinite, langbeinite, and kainite. The authors discuss various methods for the extraction of the salts and their processing into potassium fertilizers by the hot leaching of KCl from the sylvinite. A flow sheet is given for the industrial-scale separation of sylvinite into KCl and NaCl of 99.8% purity.

N. Kirichenko

CARD: 1/1

Lupan, St

Sodium chlorite. St. Lupan, *Rev. chim.* (Bucharest) 5, 88–95(1954).—$NaClO_2$ technology is reviewed. Processes discussed consist of treating a chlorate with an acid and reducing the ClO_2 with one of 9 alternate reducing agents. Utilization of the chlorite in the Rumanian paper, textile, and food industries is discussed. Gerard Aufleger

CH

LUPAN, ST

CH Choosing a suitable process for the electrolytic manufacture of chlorine. St. Lupan. *Rev. chim.* (Bucharest) 5, 437–42(1954).—An examination of known electrolytic processes, their economic and technological merits, and disadvantages. Gerard Aufleger

LUPAN, S. ; SPACU, G.

Research on causes preventing under certain conditions precipitation of small quantities of lead by hydrogen sulfide; new complex combinations of lead. p. 555. (COMUNICARILE. Rumania. Vol. 5, no. 3, Mar. 1955)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

LUPAN, ST.

LUPAN, ST. Tehnologia produselor clorosodice. Bucuresti, Editura Tehnica, 1956. 434 p. "Technology of chlorosodic products. illus."
NN Not inDLC

TECHNOLOGY
RUMANIA

So: East European Accession Vol. 6, No.5, May 1957

Hungary/Chemical Technology - Chemical Products and Their Application. Mineral Salts. Oxides. Acids. Bases, I-5

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62081

Author: Lupan, Stefan

Institution: None

Title: New Experiments on Alumina Production in Rumanian People's Republic

Original Periodical: Rovid osszefoglalo a Roman Nepkoztarsasagban folyo es a timfold-gyartasra vonatkozo uj kiserletek eredmenyeirol, Kohasz. lapok, 1955, 10, No 12, 515-516; Hungarian

Abstract: Review of experiments on recovery of alumina from cinder and repeated recovery of alumina from red sludge.

Card 1/1

LUPAN, St.

RUMANIA / Chemical Technology. Chemical Products and Their Application. Elements. Oxides. Mineral Acids. Bases. Salts. I-2

Abs Jour: Ref Zhur - Khimiya, No 2, 1958, 5211

Author : Lupan St., Badoi R.

Inst : Not Given

Title : Concurrent Preparation of Alumina and SO_2 from Bauxite and Gypsum.

Orig Pub: Rev. chim., 1957, 8, No 2, 88-92

Abstract: The diasporic nature of Rumanian bauxites precludes the possibility of their processing by the method of Bayer; they can be effectively utilized by producing Ca aluminate as the intermediate product. It is proposed to replace $CaCO_3$, in the method

Card : 1/2

RUMANIA / Chemical Technology. Chemical Products and Their Application. Elements. Oxides. Mineral Acids. Bases. Salts. I-2

Abs Jour: Ref Zhur - Khimiya, No 2, 1958, 5211.

Abstract: of Seailles, by gypsum or by anhydride in order to obtain, on clinkering, in addition to soluble Ca aluminate, gases containing SO_2. Semi-production scale experiments, carried out in an industrial furnace, demonstrated the possibility of a concurrent production of H_2SO_4 from gypsum and of Al_2O_3, by clinkering of a mixture of gypsum, bauxite and coke, with the formation of soluble Ca aluminates. The resulting gases contained 8-11% SO_2, which permits their utilization for the production of H_2SO_4, and also for sulfitization of cellulose. Bibliography 28 references.

Card : 2/2

SOV/44-58-4-2900

Translation from: Referativnyy zhurnal, Matematika, 1958, Nr 4, p 60 (USSR)

AUTHOR: Lupan, Yu. A.

TITLE: Certain Cases of Integration of the Equation $y=x\varphi(y')+\sum_{i=1}^{n}\lambda_i(x)\varphi_i(y')$ in Quadratures (Nekotoryye sluchai integrirovaniya v kvadraturakh uravneniya $y = x\varphi(y') + \sum_{i=1}^{n}\lambda_i(x)\varphi_i(y')$

PERIODICAL: Sb. stud. nauchn. rabot. Kiyevsk. politekhn. in-ta, Kiyev, 1955, pp 3-12

ABSTRACT: The form of the functions $\lambda_i(x)$ and $\varphi_i(y)$ is established, with which as a result of the preliminary differentiation the author succeeds in deriving an equation with separable variables.

V.V. Nemytskiy

Card 1/1

PTUSHINSKIY, Yu.G. [Ptushyns'kyi, IU.H.]; LUPAN, Yu.A. [Lupan, IU.A.]

Sign of the electric conductivity of powdered germanium films.
Ukr. fiz. zhur. 4 no.1:125 Ja-F '59. (MIRA 12:6)

1.Institut fiziki AN USSR.
(Germanium--Electric properties)

KIL'CHEVSKIY, Nikolay Aleksandrovich; KOVALENKO, A.D., akademik, otv. red.; LUPAN, Yu.A., red.; KODASHEVICH, O.A., tekhn. red.

[Fundamentals of the analytic mechanics of shells] Osnovy analiticheskoi mekhaniki obolochek. Kiev, Izd-vo AN USSR, 1963. 353 p. (MIRA 16:9)

1. AN Ukr.SSR (for Kovalenko).
(Mechanics, Analytic)
(Elastic plates and shells)

LUPANDIN, A.I., inzh., red.; DUGINA, N.A., tekhn. red.

[Advanced technological processes in railroad car manufacture] Peredovaia tekhnologiia mekhanosborochnogo proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 102 p. (MIRA 15:2)

1. Ural'vagonzavod, Nizhniy Tagil.
(Sverdlovsk Province--Railroads--Cars)

SAPOZHNIKOV, Yefim Nus'yevich [Sapozhnykov, IU.N.]; LUPANDIN, I., red.; GORKAVENKO, L. [Horkavenko, L.], tekhn.red.

[Czechoslovakian diesel engines] Chekhoslovats'ki dyzeli. Kyiv, Derzh.vyd-vo tekhn.lit-ry URSR, 1960. 115 p. (MIRA 14:2)

(Czechoslovakia--Diesel engines)

BELYANKIN, F.P., otv. red.; BEZUGLYY, V.D., red.; GROZIN, B.D., red.; DRAYGOR, D.A., red.; GURARIY, M.G., red.; LOGAK, N.S., red.; MITSKEVICH, Z.A., red.; PESIN, L.M., red.; RYBCHEVSKIY, Yu.S., red.; CHERNENKO, L.D., red.; YATSENKO, V.F., red.; KUDRYAVTSEV, G., red.; LUPANDIN, I., red.; SHAFETA, S., tekhn. red.

[Use of plastics in the manufacture of machinery and instruments] Plastmassy v mashinostroenii i priborostroenii. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1961. 573 p. (MIRA 14:12)
(Plastics) (Machinery industry) (Instrument manufacture)

SABLEV, Pavel Yefimovich; LUPANDIN, I.V., red.

[On the road of technological progress] Na puti tekhnicheskogo progressa. Kiev, Gostekhizdat, 1962. 24 p. (MIRA 18:6)

VOLOSHCHENKO, Mikhail Vasil'yevich; LUPANDIN, I.V., red.; GORKAVENKO, L.I.[Horkavenko, L.I.], tekhn. red.

[Heat treatment of high-strength cast iron] Termichna obrobka vysokomitsnoho chavunu. Kyiv, Derzhtekhvydav URSR, 1961. 97 p. (MIRA 15:7)

(Cast iron—Heat treatment)

LUKASHEVICH, Georgiy Ivanovich; LUPANDIN, I.V., red.

[Strength of press-fitted joints with electroplating] Prochnost' pressovykh soedinenii s gal'vanicheskimi pokrytiiami. Kiev, Gostekhizdat USSR, 1961. 59 p. (MIRA 18:6)

NOSOVA, Yelizaveta Mikhaylovna; KUGEL', Arkadiy Vasil'yevich; KUZNETSOV, Nikolay Andreyevich; ZHAROV, N.T., kand. tekhn. nauk; LUPANDIN, I.V., red.; GORKAVENKO, L.I., tekhn. red.

[Foundryman's handbook] Spravochnik liteishchika. Izd.2., perer. i dop. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1961. 610 p. (MIRA 14:10)

(Founding)

MOVCHAN, Boris Alekseyevich; LUPANDIN, I.V., red.; MATUSEVICH, S.M., tekhn. red.

[Microscopic heterogeneity of cast alloys] Mikroskopicheskaia neodnorodnost' v litykh splavakh. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1962. 339 p. (MIRA 15:3)
(Alloys--Metallography)

YEPIFANTSEV, Vitaliy Fedorovich; LUPANDIN, I.V., red.; MATUSEVICH, S.M., tekhn. red.

[Manuel for the maintenance and repair of motor vehicles] Spravochnik po remontu i tekhnicheskomu obsluzhivaniiu avtomobilei. Kiev, Gostekhizdat USSR, 1961. 630 p. (MIRA 15:6)
(Motor vehicles—Maintenance and repair)

BELOTSERKOVSKIY, Aron Grigor'yevich; LUPANDIN, I.V., red.; SHAFETA, S.M., tekhn. red.

[Motor-vehicle batteries]Avtomobil'nye akkumuliatory. Kiev, Gostekhizdat USSR, 1962. 119 p. (MIRA 15:9)
(Motor vehicles--Batteries)

RUDNITSKIY, Viktor Ivanovich; TIGAY, Akiva Bentsionovich; LUPANDIN, I.V., red.; MATUSEVICH, S.M., tekhn. red.

[Toothed and worm gears; stress analysis]Zubchatye i cherviachnye peredachi; raschet na prochnost'. Kiev, Gostekhizdat USSR, 1962. 161 p. (MIRA 15:11)

(Gearing)

3467 LUPANDIN, K. K.

Chulochno trikotazhnoye oborudovaniye za rubexhom obzor inostr. literatury. M., orgamashpribov OPTI 1954. 57 s. s ill. 22 sm (M-vo mashinostroeniya i priborostroeniya SSSR. Byulleten' periodich. informatsii. vyp. 1.) 300 ekc B. ts. Sost. ukazan v kontse teksta (54-14384ZH) 677.661.05

LUPANDIN,K.

The clothing industry [from: Manufacturing clothier, 1954].
Leg. prom. 15 no.6:54-56 Je '55. (MLRA 8:8)
(Bibliography--Clothing industry)

LUPANDIN, K.K.

The use of radioactive isotopes in testing fibrous substances. (MLRA 8:12)
Tekst.prom.15 no.10:66-67 O'55.
(Radioisotopes) (Fibers--Testing)

LUPANDIN, K.K.

Cotton cyanoethylation. Tekst.prom 15 no.11:60-61 N '55 (MLRA 9:1)

(United States--Cotton manufacture)

LUPANDIN, K.

Equipment used in the hosiery and knit-goods industry. (From "The Hosiery Trade Journal" no., 743, 1955). Leg. prom. 16 no.7:53-54 Jl '56. (MLRA 9:10)

(Knitting machines)

LUPANDIN, K.K.

Modern warp-knitting machines used in foreign countries. Leg.prom. (MLRA 10:4)
17 no.3:55-56 3 of cover Mr '57.
(Knitting machines)

RABINOVICH, Zelik Yefimovich, inzh.; Prinyali uchastiye: BUTOVICH, V.M., inzh.; LUPANDIN, K.K., inzh.-ekonom.; FEDOROV, V.I., inzh.; CHETYRKINA, Ye.N., prepodavatel'nitsa; SOBOLEV, E.A., nauchn.red.; KRASNOBORODSKAYA, L.L., red.; BOGATOVA, V.N., red.-leksikograf; YURCHENKO, D.I., red.-leksikograf; BRUDNO, K.F., tekhn. red.

[English-russian textile dictionary] Anglo-russkii tekstil'nyi slovar'. Izd.2., perer. i dop. Pod red. K.K.Lupandina. Moskva, Glav. red. inostr. nauchno-tekhn. slovarei Fizmatgiza, 1961. (MIRA 14:8)
640 p.

1. Moskovskiy tekstil'nyy institut (for Chetyrkina).
(Textile industry—Dictionaries)
(English language—Dictionaries—Russian)