

KOSHUNOV, M.

Biology of *Alhagi persarum* Boiss. et Buhse of the lake sands along
the Kara Kum Canal. Izv. AN Turk. SSR. Ser. biol. nauk no. 4:75-78 '65.
(MIRA 18:9)

1. Institut pustyn' AN Turkmenskoy SSR.

SVINTSOV, I.P.; KOSHUNOV, M.

Effect of temporary flooding on the development of tree plantations.
Izv. AN Turk. SSR. Ser. biol. nauk no.5:79-82 '63.

(MIRA 17:10)

1. Institut pustyn' AN Turkmenskoy SSR.

ACC NR: AP6002803

(N)

SOURCE CODE: UR/0237/60/000/002/0032/0036

AUTHOR: Koshur, L. T.; Sintsova, I. T.

ORG: none

TITLE: Study of the problem of stabilization of zirconium dioxide

SOURCE: Optiko-mekhanicheskaya promyshlennost', no. 2, 1960, 32-36

TOPIC TAGS: zirconium dioxide, zirconium compound, refractory compound, refractory product

ABSTRACT: Because of its chemical and thermal stability, density, and strength at high temperatures, zirconium dioxide is of interest in the development of highly refractory materials applicable for the melting of glass batches at high temperatures. The authors established the effect of stabilizing additives, firing temperature, and holding period on the formation of stable solid solutions of ZrO_2 . Two batches of commercial-grade ZrO_2 were used as raw material. It was found that CaO and MgO could be used as stabilizing additives to promote transition from the initial, thermally unstable monoclinic ZrO_2 to the thermally stable cubic modification, optimum amounts of the additives being 10 and 14 mol.%, respectively. The degree of stabilization was

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checked by means of chemical phase analysis and x-ray diffraction analysis, as well as visually. It was found that the best method of stabilizing is by sintering in an electric arc furnace at temperatures of not less than 1700°C and preferably above 2000°C. The pressure employed in compacting the specimens should not be less than 500 kg/cm².

SUB CODE: 07, // / SUBM DATE: 14 Jul 59 / ORIG REF: 004 / OTH REF: 005

Card 2/2

ACC NR: AP6032945

with higher CeO₂ content. The Y₂O₃-containing samples also exhibited a satisfactory thermal-shock resistance since they displayed firecracks after 11 thermal cycles only. The samples with 8 mol% Y₂O₃ and 10% unfired ZrO₂ broke down after 25 thermal cycles. The La₂O₃ addition was the least efficient stabilizer of ZrO₂. Improved thermal-shock resistance was correlated with the presence of both cubic and monoclinic ZrO₂. Positive results were obtained with the stabilized ZrO₂ products which were tested in laboratory and pilot-plant at 2000C under a severe temperature gradient. Orig. art. has: 2 figures and 1 table. [JK]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 002/ ATD PRESS: 5096

Refractory Compound

27

Card 2/2 *egh*

ACCESSION NR: AP4015112

S/0136/64/000/002/0070/0075

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825110020-2"
AUTHORS: Ryukov, A. M., Shevakin, Yu. P., Koshelev, I. V.

TITLE: Forces on the ram during tube extrusion.

SOURCE: Tsvetny*ye metally*, no. 2, 1964, 70-75

TOPIC TAGS: Extrusion, extrusion force, tube extrusion, ram, design, upsetting, ram stress, ram compression, ram stretching force

ABSTRACT: Measurements were made of forces applied to 15, 26, 45 and 55 mm. diameter rams used in extruding tubes having 2,3,4, and 6 mm. walls from 150 x 200 mm. copper billets on a 1500 ton horizontal press. On upsetting the billet the forces on the ram increase to a maximum and then decrease as it approaches the die. The upsetting proceeds in two stages characterized by reverse flow of the metal which is progressively retarded by frictional forces until the deformation of the ingot is caused by shearing of the non-upset portion of the billet at the bottom. The nature of the change in stresses on

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ACCESSION NR: AP4015112

the ram along the length of the ingot and the position of the maximum stress depends on the ratio of the ram and the container diameter. As the diameter of the ram decreases, the position of the maximum stress shifts in the direction of the die. The total of the stresses on the ram, σ , is the sum of the stresses due to the cutting forces, σ' , and the frictional forces, σ'' : $\sigma = Z(\sigma' + \sigma'')$, Z being the temperature coefficient accounting for the cooling of the metal (limits of 1.0-1.6). The force on the ram may be expressed by $P = (\pi d^2/4)$. The compression stresses on the ram decrease as its diameter increases, e.g. increasing the diameter from 15 to 55 mm. reduces stresses from 45 to 25 kg/mm². Resistance to deformation increases on transition from upsetting to extrusion, and the friction increases until it is the only force on the ram as the metal flows through the die. The forces on the ram are less with a larger diameter ram and a tube with thicker walls. Stretching forces are developed on the ram on removing it at the end of the extrusion. As a result of these investigations a new ram has been constructed (Shevakin, Yu. F., Ry*tkov, A.M. and Koshurin, A.V., inventor certificate No. 143009) comprising the combination of a larger removable ram and a smaller operating ram

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ACCESSION NR: AP4015112

which is longer than present rams. "V. A. Petrov and V. I. Polovinkina participated in conducting the experimental work." Orig. art. has: 2 tables, 5 equations and 3 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 12Mar64

ENCL: 00

SUB CODE: MD, ML

NR REF SOV: 006

OTHER: 001

Card 3/3

KOSHURIN, A. V.

136-8-3/21

AUTHORS: Strakhov, G.N., Engineer, Koshurin, A.V., Engineer

TITLE: Extrusion of Bars with a Movable Container Bush
(Pressovaniye prutkov s podvizhnoy vtulkoy konteynera)

PERIODICAL: Tsvetnye Metally, 1957, Nr 8, pp.16-20 (USSR)

ABSTRACT: The authors (photographs given) consider two schemes of metal flow during extrusion (Fig.1), possible causes of lamination and ways of avoiding them. They comment favourably on reverse flow extrusion and suggest that unsatisfactory surface qualities obtained in previous investigations were due to unavailability of suitable equipment. To overcome this shortage the authors proposed the use of a movable container bush to enable forward action presses to be used for reverse-flow extrusion. Here the ingot is placed in the movable bush whose length is half that of the container (Fig.2). Details of this method are given and its application to different alloys on a 1500 ton horizontal hydraulic press is described, a metal balance for 20-35 mm diameter bars of one alloy extruded from ingots 350 mm long and 175 mm in diameter. Various modifications of equipment and procedure have been tried and its use extended to a wider range of alloys. This work and the latest form of the

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136-8-3/21

Extrusion of Bars with a Movable Container Bush.

equipment is described (Fig.3) and advantages of the technique are considered. Future work is outlined. There are 3 figures.

ASSOCIATION: "Krasnyy Vyborzhets" Works (Zavod "Krasnyy Vyborzhets)

AVAILABLE: Library of Congress.

Card 2/2

SOV/136-59-4-11/24

AUTHORS: Shevakin, Yu.F., Candidate of Technical Sciences,
Rytikov, A.M., Sharov, I.Ye., Butomo, D.G., Koshurin, A.V.,
Sergeyeva, Z.L., Engineers

TITLE: Comparison of the Efficiency of Tube Production from
Non-Ferrous Metals and their Alloys by Cold-Rolling and
by Drawing Methods (Ekonomicheskaya effektivnost'
proizvodstva trub iz tsvetnykh metallov i splavov
kholodnoy prokatkoy po sravneniyu s volocheniye)

PERIODICAL: Tsvetnyye metally, 1959, Nr 4, pp 57-63 (USSR)

ABSTRACT: Opinion was divided on the relative merits of the
different methods of tube production, therefore the
present investigation was carried out. All sizes of
tubes were tried by the two methods. It was shown that
output from cold-rolling was 10-25% higher than that from
drawing (table 1). The machine-hours and man-hours for
cold-rolling were shorter than for drawing (table 2).
Table 3 shows the increase in production by cold-rolling
with better equipment. By cold-rolling with modern
equipment the machine-hours and man-hours could be cut by
two in the production of copper tube. The economy in

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Comparison of the Efficiency of Tube Production from Non-Ferrous Metals and their Alloys by Cold-Rolling and by Drawing Methods

this case was 224 roubles per ton and in other cases varied from 165 to 374 roubles per ton. The number of operations in the copper tube production was reduced from 27 to 18. The production of condenser tubes in L68 (brass) alloy has been increased from 70-90 to 180-200 m/hr. An advantage of cold-rolling is that deformation can be up to 94% of the initial section. It also allows the manufacture of tubes from L68 without an intermediate temper, giving a tensile strength of 75-77 kg/mm² and an elongation of 2.5-3%. For materials which are difficult to deform (e.g. some Ti alloys) cold-rolling is a superior method of tube production as the machinery is cheaper and the number of operations is reduced. At present, work is in hand for a cold-rolling mill which will produce two or three tubes simultaneously.

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Comparison of the Efficiency of Tube Production from Non-Ferrous Metals and their Alloys by Cold-Rolling and by Drawing Methods

There are 5 tables and 4 references, 3 of which are Soviet and 1 German.

ASSOCIATIONS. Institut stali; Zavod "Krasnyy Vyborzhets"; Kol'chuginskiy zavod po obrabotke tsvetnykh metallov i splavov (Steel Institute; "Krasnyy Vyborzhets" Works and Kol'chugino Works for Processing of Non-Ferrous Metals and Alloys)

Card 3/3

S/136/60/000/02/014/022
E193/E483

AUTHORS: Koshurin, A.V., Engineer;
Shevakin, Yu.F., Candidate of Technical Sciences and
Rytikov, A.N., Engineer

TITLE: Mastering the Technique of Manufacturing Hollow Shapes
of Asymmetrical Cross-Section

PERIODICAL: Tsvetnyye metally, 1960, Nr 2, pp 64-72 (USSR)

ABSTRACT: Aluminium and aluminium alloy tubes of both symmetrical and asymmetrical cross-section are at present extensively made by extrusion through bridge dies. This method is not suitable for extruding copper tubes of this type owing to much higher extrusion temperature and the tendency of copper to oxidize; the former affects the stability of the die, the latter causes difficulties in the formation of good quality weld between two streams of the extruded material. It was for this reason that the method of extruding copper hollow shapes of asymmetrical cross-section through a die with compensating die aperture(s) has been developed, the present paper reporting the work carried out in this connection. The shape of the tube, whose fabrication

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Mastering the Technique of Manufacturing Hollow Shapes of
Asymmetrical Cross-Section

has been investigated, is shown in Fig 1; the range of dimensions (in mm) is given in the table in Fig 1. It follows from the theoretical considerations that if no precautions were taken, section F_I of the tube would emerge from the die at a rate higher than that of section F_{II} (see Fig 1); the tendency of the metal to emerge at a uniform rate would result in an increase of the area F_I and displacement of the mandrel towards the section F_{II} . The rate at which the metal emerges from the die on the side of section F_I can be reduced only by increasing the quantity of metal extruded on this side and this can be attained only by the provision of an additional compensating aperture(s) in the die. To investigate the effect of the area and circumferences of the compensating aperture(s) and its (their) distance from the mandrel axis on the extrusion process, 14 experimental dies were prepared. The design of these dies is illustrated in Fig 2; the distance of the compensating aperture(s) in dies Nr 1 to 8 is shown in

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E193/E483Mastering the Technique of Manufacturing Hollow Shapes of
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finally, graph "g" shows Δz (mm) plotted against the distance (l , mm) between the compensating aperture and the mandrel axis in dies Nr 9 to 14, for two areas of the compensating aperture: $F_{np} = 783 \text{ mm}^2$ (upper curve) and $F_{np} = 1020 \text{ mm}^2$ (lower curve). It was established on the basis of these results that the areas of the compensating aperture, F_{np} , is given by the following general formula:

$$F_{np} = (F_{II} - F_I) \cdot \frac{\Pi_I + \Sigma \Pi_{np}}{II} \quad (1)$$

where: $\Sigma \Pi_{np}$ - sum of the circumferences of the compensating aperture(s) (mm); Π_I - circumference of part F_I of the cross-section of the extruded shape (mm); Π_{II} - circumference of part F_{II} of the cross-section of the extruded shape (mm). The size of the compensating aperture of a circular shape is given by the formula

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$$D_{np} = 2a \left(1 + \sqrt{1 + \frac{\pi I}{\pi \cdot a \cdot n}} \right) \quad (2)$$

where: D_{np} - diameter (mm) of the compensating aperture;
 n - number of compensating apertures;

$$a = \frac{F_{II} - F_I}{\pi II}$$

The application of this formula is

illustrated (see the bottom of p 66) by calculating the optimum value of D_{np} for the die shown in Fig 2 (dies Nr 1 to 6), which is found to be equal 24.0 mm; its area of 452 mm² corresponds (as can be seen in Fig 3a) to $\Delta z = 0$. The method, described above, was used in designing a series of dies, employed in fabricating a trial batch of hollow shapes as illustrated in Fig 1; the dies were made of steel 3Kh2V8, mandrel of steel E1661. The results showed that, with the aid of

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dies with compensating aperture(s), hollow shapes of the type under consideration can be successfully extruded if the diameter of the hollow (dimension D) is not less than 14 mm. Hollow shapes with $D > 14$ mm were fabricated by extruding blanks which were then reduced to the required size by cold rolling. The problems, associated with the latter operation, are discussed in the second part of the present paper which is concerned mainly with the design of the roll pass for this application. Fig 4 shows (a) the deformation zone and (b) the horizontal projection of the areas of contact in rolling the hollow shape of the cross-section shown in Fig 1. The analytical solution of the roll pass design was based on two fundamental conditions: (1) equality of the total deformation of contours I and II (see Fig 1); (2) equality of the horizontal projections of the areas of contact between metal and the top and bottom rolls. After deriving the necessary formulae, the authors show how they are applied in

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through the rolls with (A) open and (B) closed passes. In order to study the flow of metal during rolling, aluminium pins were inserted in the blanks. X-ray photographs of sections of the tubes before (a) and after (b) rolling in both open (photograph I) and closed (photograph II) passes, reproduced in Fig 9, show that practically no distortion of the pins occurred during rolling, thus confirming the validity of the principles on which the present authors based their calculations, and proving that calculations starting from the external geometry on the hollow shapes of asymmetrical cross-section alone cannot give the correct solution. After rolling, the tubes (30 to 40 m long) were coiled having first passed through two dies: the first die removed the surface imperfections (fins, burrs etc), the second die acting as the sizing die. (The authors point out, in this connection, that passing the tube through the first die is less likely to affect the roundness of the hollow in case of tubes rolled in

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a closed pass since, in this case, the fins are not situated opposite the hollow.) After concluding that the method described in the present paper can be used for designing roll passes for rolling asymmetrical sections with hollows of any shape (square, rectangular) from blanks with circular hollows, they point out that although hollow shapes with asymmetrical cross-section can be also made by rolling blanks of symmetrical cross-section, a portion of the material being cut off in the course of rolling (see Fig 10), the disadvantage of this method lies in that it is more likely to give rise to surface defects (laps). There are 10 figures, 4 tables and 5 Soviet references.

ASSOCIATIONS: Zavod "Krasnyy Vyborzhets" ("Red Elector" Plant)
Moskovskiy institut stali (Moscow Steel Institute)

Card 9/9

BUTOMO, D.G.; VAYZHYA, N.M.; ZVONKINA, V.F.; KOSHURIN, A.V.; SERGEYEV, L.N.;
FRUMKINA, Yu.A.

Concerning the "Handbook on the processing of nonferrous metals and
alloys" TSvet.met. 35 no.12:60 D '62. (MIRA 16:2)

1. Sovet Nauchno-tehnicheskogo obshchestva zavoda "Krasnyy
Vyborzhets".

(Nonferrous metals)

YELISEYEV, E.N.; RUDENKO, L.Ye.; SINEV, L.A.; KOSHURNIKOV, B.L.; SOLOVOV, N.I.

Polymorphism of copper sulfides in the $\text{Cu}_2\text{S}-\text{Cu}_{1,8}\text{S}$. Min. sbor. 18
no.4:385-400 '64. (MIRA 18:7)

1. Gosudarstvennyy universitet imeni Ivana Franko, L'vov, laboratoriya
pirometallurgii medi Gorno-metallurgicheskogo kombinata imeni Zavenyagina,
Noril'sk i tsekh zavodskikh laboratoriy kombinata "Severonikel'", Monchegorsk.

MUKHLENOV, I.P.; SHABEL'NIKOV, A.P.; Primali uchastiye: KOSHURNIKOV, B.L.;
GOVOROV, V.P.; BONDARCHUK, T.P.

Study of the processes of water-cycling concentration and purification
of sulfur dioxide. Zhur.prikl.khim. 37 no.1:3-8 Ja '64.

(MIRA 17:2)

1. Leningradskiy tekhnologicheskij institut imeni Lensoveta.

KOSHURNIKOV, G. S.

"Influence of size of ions on the electromotive force of a galvanic cell." (p. 1125)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1940, Vol. 20, No. 7.

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2

Adsorbed layers as a passivating factor. G. S. Koshurnikov. *Zh. Obshch. Khim.* (J. Gen. Chem.) 28, 258-97(1941). (1) Adsorption from aq. solns. (10 ml.) of pure PbOH, BiOH, and BiCO₃H on powder of pure Fe, Al₂O₃, and tech. Fe₂O₃ (1 g.) was detd. in 30-min. runs. The following data give, in millimols/l., the initial concns. c_0 and the adsorbed amount Δc . On Al₂O₃, BiOH (at 20°), c_0 358.5, 133.0, 53.7, Δc -0.4, -2.0, -1.7; PbOH (20°), c_0 500, 328, 241, 100.4, Δc 40.5, 4.0, -4.3, -5.6; BiCO₃H c_0 203, 102, 43, Δc (20°) 33.3, 10.1, 5.2, (65°) 53.5, 10.5, 5.8; on Fe₂O₃ (at 20°), BiOH c_0 358.5, 173.2, 53.7, Δc -2.1, -2.0, -2.1; PbOH c_0 500, 328.5, 229.5, 100.4, Δc 23.5, 3.5, -4.1, -5.3; BiCO₃H c_0 203, 130, 109, 43, Δc 7.4, 0.6, -0.8, -4.6; on Fe (20°), BiOH c_0 329.5, 165, 53.7, 50.6, Δc 3.4, 0.4, -1.4, -1.4; PbOH c_0 500, 329.5, 155.4, 100.4, Δc 29.8, 2.4, -0.3, -0.4. The "neg." adsorptions indicate preferential desorption of H₂O. The adsorbed layers of PbOH on Fe resist energetic washing with H₂O and lower the rate of soln. of Fe in 1% H₂SO₄, e.g., vol. of H₂ evolved after 5, 15, and 40 min., without PbOH 3.23, 10.78, and 31.15, with adsorbed PbOH 1.99, 8.95, and 28.02. (2) Contact angles θ between H₂O and surfaces of Fe or Zn coated with adsorbed layers of org. compds., washed with H₂O and dried were detd. as a function of the temp., of c_0 and of the duration τ of the adsorption, for $\tau = 10$ min. (θ_0 , close to the equil. θ) and extrapolated to $\tau = 0$ (θ_s). The curves of θ as a function of c_0 have the shape of Langmuir ad-

sorption isotherms, θ tending to level off with increasing c_0 . As a function of time, at 20°, the satn. value of θ is reached in about 5 min. with *o*-C₆H₄(CO₂H), 10 min. with PbOH, 30 min. with BiOH. At high c_0 , values of θ_0 and θ_s are practically identical. With increasing temp., θ_0 and θ_s decrease on Fe, pass through a min. on Zn; in the latter case, the θ_0 and θ_s curves coincide at 10° and at 97°; this indicates sharp orientation of the adsorbed films. (3) With increasing temp. of the thermal treatment following the adsorption of PbOH on Zn, θ_0 and θ_s for H₂O first increase, pass through a max. and then fall; the θ for 0.1 N H₂SO₄ remains const. within 10-48°, then fall with further increasing temp. of the aftertreatment. These effects can be due only to changes of orientation within the film, not to changes of its d. On Zn + PbOH surfaces, the rate of spreading, measured by the change of θ with time, is low for H₂O and solns. of CuSO₄ or KMnO₄, high for acids and alkalis; the latter, evidently, destroy the film, but not so Cu⁺⁺ ions. (4) When treated with HCHO or urotropine, the adsorbed film is hardened and passivates the underlying metal towards acids. Thus, as Fe sheet having originally, in 10% H₂SO₄, a "stability coeff." (length of exposure (hrs.)/vol. of H₂ evolved) $k = 0.1$, showed after adsorption of PbOH, *o*-OHC₆H₄NO₂, *o*-OHC₆H₄CO₂H, 1,4-NH₂C₆H₄SO₃H, followed by treatment with HCHO, resp., $k = 0.145, 0.145, 0.18, 0.19$ (4 hrs. in 10% H₂SO₄). Strong passivating effects are obtained if a d.c. is passed during the adsorption, and the adsorbed film is subsequently condensed with urotropine. Similar effects are also obtained by preliminary electrolytic treatment prior to adsorption.

N. Tboov

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

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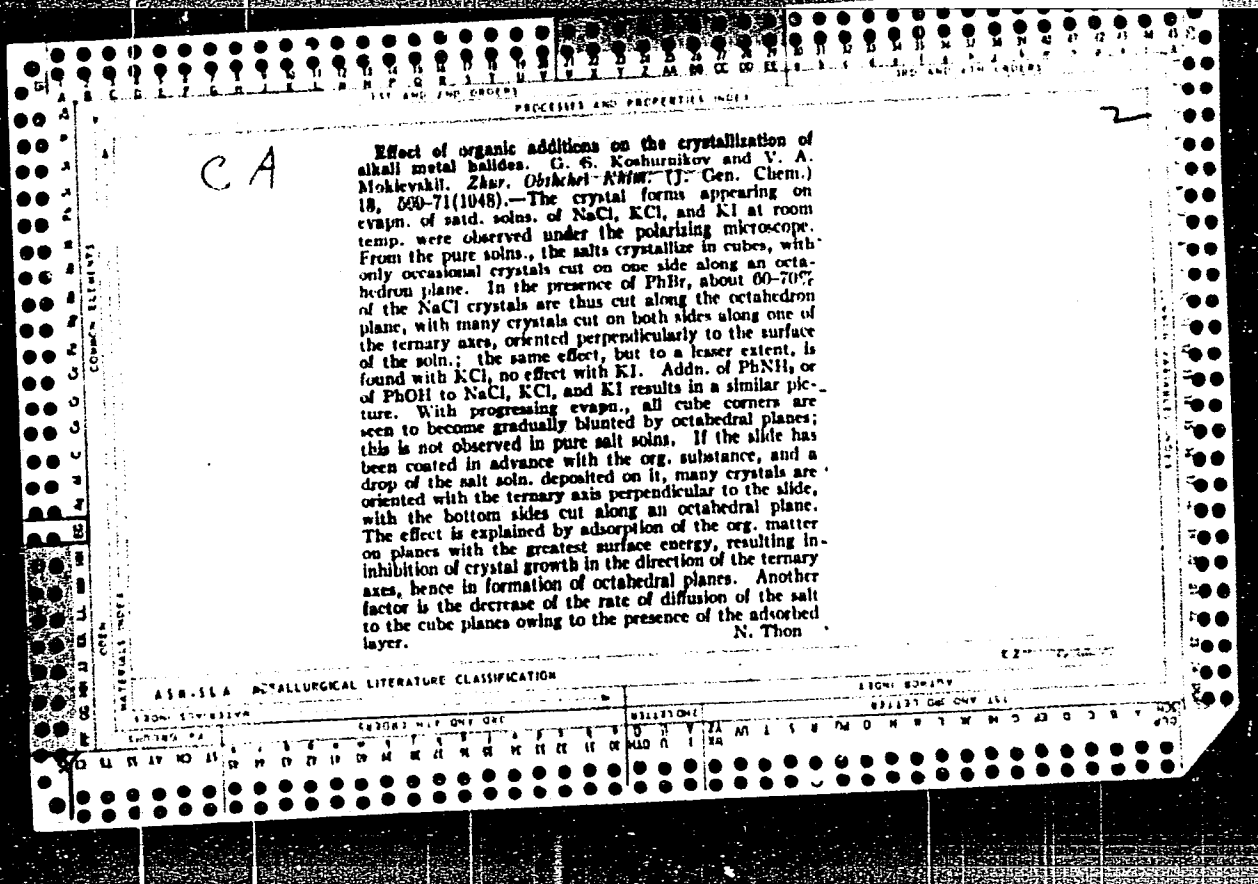
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2

CA

Adsorptive passivation of iron with protein layers. G. B. Kucharskiy. *Zhur. Priklad. Khim.* (J. Applied Chem.) 23, 698-702 (1949); *cf. C.A.* 43, 296. Best passivation towards 10% HNO₃ was obtained by 18-min. immersion in a soln. contain. gelatin 0.2, concd. HNO₃ 7.5, PhOH 0.25, K₂Cr₂O₇ 0.5 g., in 30 ml. H₂O, with subsequent rinsing and wiping off the excess. Omission of any one of the ingredients results in less passivity. The optimum corresponds to highest contents of HNO₃ and K₂Cr₂O₇ at the given contents of gelatin and PhOH. The protective action consists in the formation of a gelatin-nitrophenolic film on the HNO₃-etched iron surface. The films are even more resistant to other acids, HCl and AcOH, but provide no protection against salt solns. Phosphated casein films protect against both acids and salts. Adsorptive passivation is superior to Parkerization. N. Thon

U.S.S.R. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

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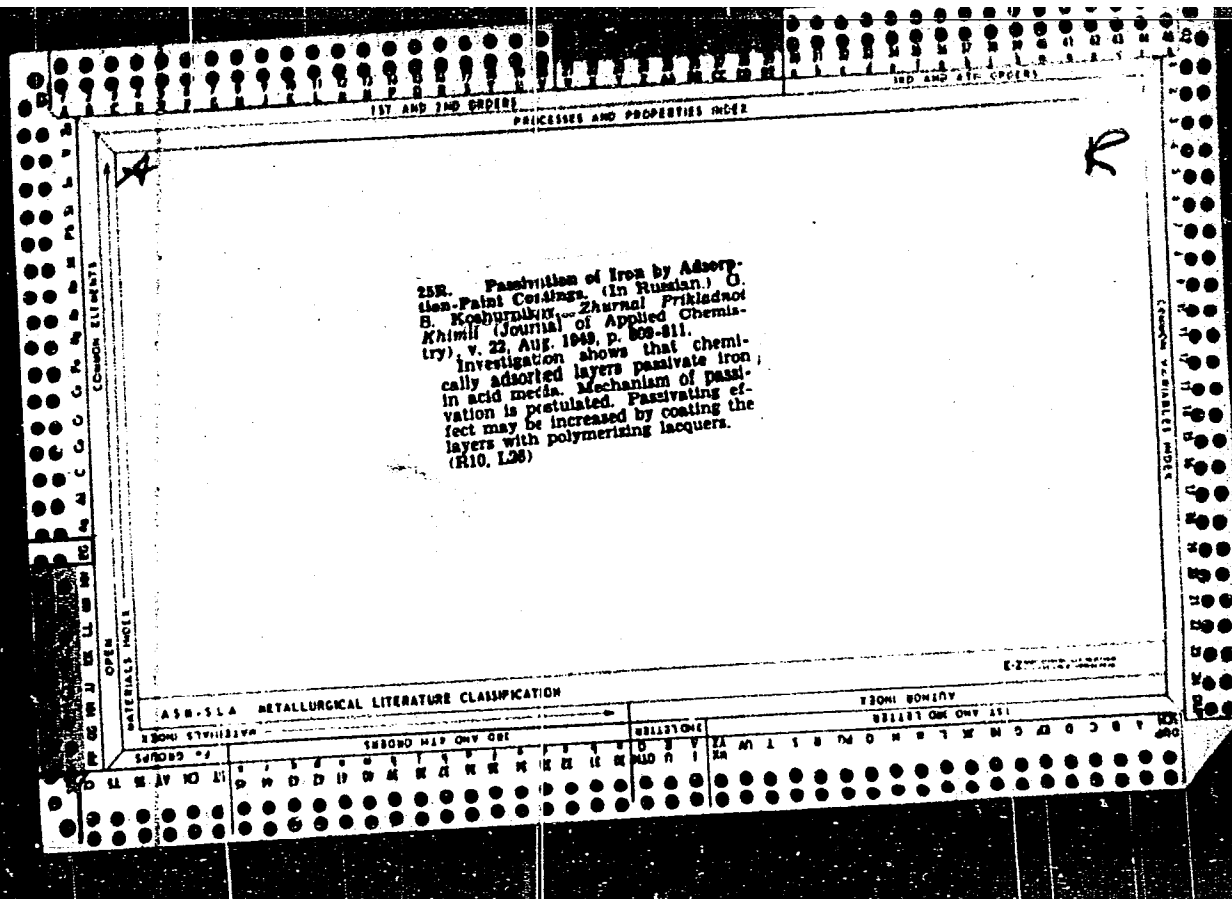
(General - Miscellaneous)

3812. Apparatus for measurement of the solubility (dissolution) of crystals. G. S. Koshurnikov (*J. appl. Chem. USSR*, 1948, 22, 773-779).—The crystal (of a compound containing cations such as Cu, Pb, Fe, Ag, Zn) under examination is placed in the saturated solution inside a small glass vessel which rests on a microscope stage. Direct current passes through this electrolyte solution and the crystal dissolves slowly as a result of electrolysis. The rate of dissolution may be regulated by adjusting the current. The changes in the habit of the crystal resulting from its slow dissolution are observed through the microscope. J. B. J. ZAEA.

CA

2

Method of investigation of the rate of solution of crystals.
L. S. Koshurnikov. *Zhur. Priklad. Khim.* (J. Applied
Chem.) 22, 775-9(1949).—The crystal is immersed in a
sat. soln. of this same substance; a direct current is sent
between 2 electrodes, producing, as a result of deposition,
a lowering of the concn. of the electrolyte. This lowering of
the concn. forces the crystal to dissolve; the change of the
size of the crystal is followed by microscopic observation.
Variation of the current intensity permits control of the rate
of soln. of the crystal.
N. Thon.



CA

Influence of the dimensions of the ions on the electromotive force of a galvanic cell. G. S. Koshunikov. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 1125-30 (1950).

The e.m.f. of the cell Pt/Zn (electrolytic, on Pt), with the electrodes pretreated cathodically in 1 N H₂SO₄ in order to reduce the oxide film to a min., was detd. at 24° in NaCl 3.17, 2.11, 1.68, 1.05, 0.78 N, to 1.032, 1.074, 1.063, 1.071, 1.079 v., resp.; in KCl 2.02, 1.35, 1.01, 1.07 N, to 1.117, 1.104, 1.104, 1.093 v.; in KBr 2.01, 1.35, 1.01, 0.97 N, to 1.027, 1.027, 1.014, 1.014 v.; in KI 1.95, 1.30, 0.97, 0.65 N, to 0.842, 0.892, 0.851, 0.842 v. In satd. solns., at 24°, the e.m.f. was, in KCl 1.008, NaCl 0.740, KBr 0.944, KI 0.842, NaF 0.952. These measurements agree with an empirical formula relating the e.m.f. E to the radii r_c and r_a of the cation and the anion, $E = k r_c / r_a$. The proportionality factor k is nearly equal for the above 5 electrolytes, av. $k = 1.38 \times 10^{-3}$ A. A further test of this empirical formula lies in the calculation of e.m.f. measurements in satd. NH₄Cl and KNO₃ of the radii of the NH₄⁺ and NO₃⁻ ions. The e.m.f. give for NH₄⁺, $r_c = 1.333$ A., consistent with the $0.71 + 2 \times 0.3 = 1.34$ calcd. from the covalent radii, and for NO₃⁻, $r_a = 2.23$ A., in agreement with the covalent $3 \times 0.74 = 2.22$ A. Qualitatively, the empirical formula is interpreted by a compressing action of anions on the "electron gas" of the metal, an action counteracted by the cations.

N. Thon

CA

4

The influence of the dimensions of ions on the electro-
motive force of a galvanic cell. G. S. Koshurnikov.
J. Gen. Chem. U.S.S.R. 20, 1169-73(1950)(Engl. transla-
tion).—See *C.A.* 44, 9277b. R. M. S.

KOSHURNIKOV, G.S.

①

The zero potential of an electrode. G. S. Koshurnikov. *J. Appl. Chem. U.S.S.R.* 25, 635-6 (1952) (Engl. translation). *Zhur. Priklad. Khim.* 25, 661 (1952).—From existing data and the expression $E_0 = \rho(R_0 - R_i)$, where E_0 is the normal electrode potential of the metal, R_0 is the radius of the metal atom, and R_i is the radius of the metal ion, a curve is obtained for E_0 vs. $R_0 - R_i$. This curve intersects the E_0 axis by extrapolation, and the zero-potential is thus obtained, the mean value of which is equal to +2.2 v. With this value for the zero electrode potential, a scale is given of normal electrode potentials, starting with $\text{Li}^+ \rightleftharpoons \text{Li}$ as 5.21 v. and ending with $\text{Au}^+ \rightleftharpoons \text{Au}$ as 0.60 v. B. R.

e

[Handwritten signature]
10/18/54

* KOSHURNIKOV, G.S.

137-58-2-3649

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 195 (USSR)

AUTHOR: Koshurnikov, G.S.

TITLE: Effect of Ultraviolet Radiation on the Protective Properties of Anticorrosion Lacquer Coatings (Vliyaniye ul'trafiol'tovogo oblucheniya na zashchitnyye svoystva antikorroziionnykh lakovykh pokrytiy)

PERIODICAL: V sb.: Raschet i issledovaniye v optichesk. priborostr., Leningrad, LGU, 1956, pp 126-128

ABSTRACT: A communication on the use of ultraviolet radiation to dry paint and lacquer coatings. Comparative data on the protective properties of 41-T lacquer (L) after air drying, forced drying (150°C), and after exposure to ultraviolet irradiation (with a PRK-4 lamp) are presented. The protective properties of the L were determined by the time required for a 10% HCl solution to penetrate through a film of L applied to the metal surface. The L was applied by immersion, and also electrophoretically. It was established that ultraviolet irradiation of the films diminishes penetrability of coatings.

Card 1/1

D. Ya.

1. Lacquer coatings--Drying--Effects of ultraviolet rays
2. Paint--Drying--Effects of ultraviolet rays

137-58-4-7916

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 222 (USSR)

AUTHOR: Koshurnikov, G.S.

TITLE: Electrophoretic Application of Lacquer Coatings to the Surface of Metals (Elektroforeticheskoye naneseniye lakovykh plenok na poverkhnost' metallov)

PERIODICAL: Sb. nauchn. tr. kafedr. matem., mekhan., khimii. Leningr. in-t tochnoy mekhan. i optiki, 1957, Nr 24, pp 91-94

ABSTRACT: An investigation is made of the protective properties of lacquer coatings (LC) applied to mild polished Fe by electrophoresis, by means of nonaqueous solutions. 41-T lacquer was dissolved in acetone in volumetric ratios of 70:30, 50:50, 20:80, and 10:90, respectively. Glycerin-phthalic anhydride lacquer was deposited from a 50% acetone solution. Electrophoresis was continued for 15 min at low current and 24-300 volt potential. The walls of an Fe beaker served as the cathode. The lacquer coating was dried at 158°C. Weight-loss tests for corrosion performed in a 10% HCl solution showed that the electrophoretic method of applying LC to Fe permits the production of coatings 1.2 to 1.3 times as thick, and 5 to 6 times as effective in pro-

Card 1/2

137-58-4-7916

Electrophoretic Application of Lacquer Coatings to the Surface of Metals

protective properties as LC produced by immersion.
Bibliography: 16 references.

Ye. Z.

1. Lacquer coatings 2. Metals--Coatings 3. Electrophoresis--Applications

Card 2/2

137-58-4-7908

Translation from: Referativnyy zhurnal, Metallurgiya, 1958. Nr 4, p 221 (USSR)

AUTHORS: Koshurnikov, G.S., Nemilova, I.V.

TITLE: Use of Anti-corrosive Organic Coating on Oxidized Mild Steel and Aluminum Surfaces (Primeneniye antikorroziionnogo organicheskogo pokrytiya po oksidirovannoy poverkhnosti myagkoy stali i alyuminiya)

PERIODICAL: Sb. nauchn. tr. kafedr matem., mekhan., khimii, Leningr. in-t tochnoy mekhan. i optiki, 1957, Nr 24, pp 95-102

ABSTRACT: The resistance to corrosion in a 10% HCl solution of lacquer coatings on oxidized specimens of mild steel and Al was investigated with two methods of application of 4i-T lacquer to the metals. It is shown that an electrophoretic coating of lacquer on an oxidized surface increases the corrosion resistance of specimens of Al by a factor of 70 and of steel by 25 to 30 fold. Note is taken of the small difference in the corrosion resistance of a lacquer coating applied electrophoretically and by simple immersion of oxidized Al samples.

Card 1/1

1. Steel--Corrosion prevention
Organic coatings--Applications

P.S.

2. Aluminum--Corrosion prevention

5.1310 1160 1273 1087

26872
S/081/61/000/013/005/028
B105/B201

AUTHORS: Koshurnikov G. S., Ivanova A. P., Levinzon A. L.

TITLE: Electrocrystallization of metals in the presence of organic and inorganic substances. Communication I

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1961, 86, abstract 136652. (Sb. nauchn. tr. kafedr matem. grafiki, khimii i teor. mekhan. Leningr. in-t tochnoy mekhan. i optiki, 1960, vyp. 31, 110-119)

TEXT: The authors studied the effect of organic and inorganic admixtures to electrolytes on the electrical resistance (ER) of metallic coats. ER of Cu coats, obtained from CuSO_4 solutions, is first lowered with increasing current density i , and then rises again, deposits of dendritic structure being formed. If HNO_3 and H_2SO_4 are added to the CuSO_4 solution, the ER minimum disappears, and the dendritic form is not formed. An addition of H_3BO_3 shifts the ER minimum toward greater i , while an

Card 1/2

Electrocrystallization of metals in ...

26872
S/081/61/000/013/005/028
B105/B201

addition of Na_2SO_4 , MgSO_4 , and $\text{Al}_2(\text{SO}_4)_3$ shift it to smaller i . The increase of the minimum of ER, which depends on the nature of the cation was explained by the inclusion of the hydroxides into the interstices of the crystals. An addition of benzoic acid and aniline increase ER considerably, while an addition of phenol and sugar is almost ineffective. [Abstracter's note: Complete translation.]

Card 2/2

25737
S/123/61/000/012/023/042
A004/A101

15.7600

AUTHOR: Koshurnikov, G. S.

TITLE: Electrophoretic application of lacquer films on metal surfaces

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 12, 1961, 95, abstract 12B684 ("Sb. nauchn. tr. kafedr. matem., grafiki, khimii i teor. mekhan. Leningr. in-t tochnoy mekhan. i ptiki", 1960, no. 31, 149-151)

TEXT: The author presents the results of investigating the application of lacquers to metal surfaces by the electrophoretic method. Specimens from cylindrical bars of soft steel and duralium 6 mm in diameter and 90 mm long and from magnesium-manganese alloy sheets (MA1 according to AMTU 167) with the dimensions 50 x 10 x 4 mm were cleaned with emery cloth, washed with acetone and treated electrochemically in acetone phenol solutions, after which they were coated with lacquer by the electrophoretic method. Comparative corrosion tests showed the highly protective properties of lacquer films applied by the electrophoretic method onto an adsorption phenol layer. The mentioned coats were not only

Card 1/2

25737

S/123/61/000/012/023/042
A004/A101

Electrophoretic application of lacquer ...

resistant to cold and hot 10% hydrochloric acid and to the 3% solution of boiling acetic acid, but even showed no signs of corrosion damage after a 236-day exposure to the atmosphere of an industrial town. ✓

N. Savina

[Abstracter's note: Complete translation]

Card 2/2

KOSHURNIKOV, V. S.

Grinding Polishing

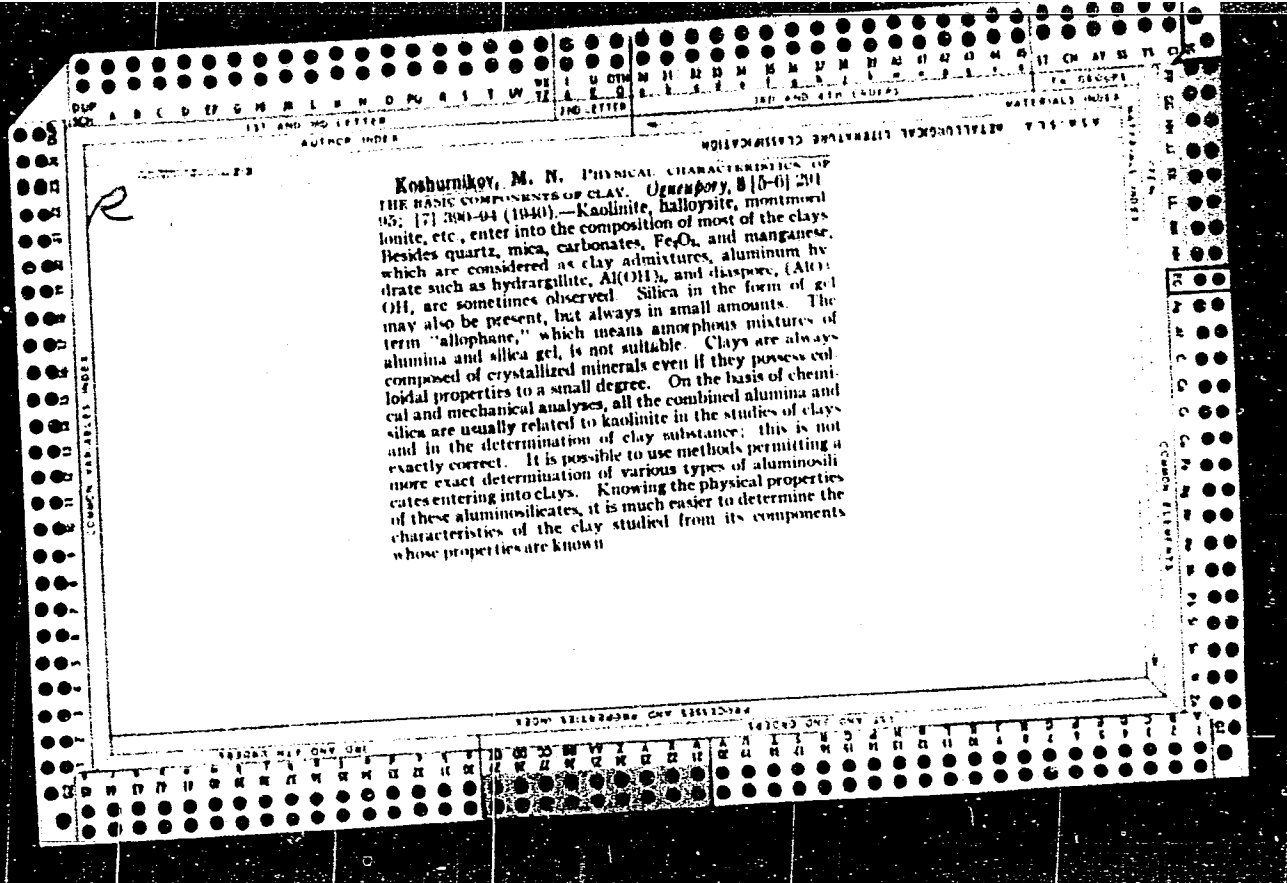
Device for finishing cylindrical parts. Stan. i instr., 23, no. 6, 1952

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

A.C.S.

Abrasives

Abrasive. M. S. Kozlovskiy. Russ. 57, (1912), April
30, 1940. 806. 11.—An abrasive is produced by heat-
treating pyrophyllite. This is accomplished by heating a
clean pyrophyllite, containing no corundum, to 1400°.
M.H.



A.C.S.

Geology

Kazakhstan andaluzite. M. N. Koshurikov and A. E. Zverevov. *Ogneporo*, 1943, No. 4/8, pp. 21-26. Of all the Soviet Union, Kazakhstan is particularly rich in deposits of andaluzite. Many of these deposits are far removed from railroads, and their exploitation is not considered at present. Fourteen deposits, either presently exploited or suitable for immediate exploitation, are described. The Semiz-Bugai deposit located 140 km east of Karagandy is estimated to contain 110,000 tons of ore. The andaluzite content is 20 to 81%, and there is 12 to 81% pyrophyllite. The rich ores contain 52% Al_2O_3 , less than 2% Fe_2O_3 , and less than 6% $K_2O + Na_2O$. The medium-grade ores of this deposit contain 40% Al_2O_3 ; the low-grade ores contain 15 to 20% andaluzite. The Kourrad deposit is estimated at several million tons. The ore of the northern part is approximately 250,000 sq. m. and its northern part is approximately 250,000 sq. m. The ore of the northern part contains over 30% andaluzite. The Yuzhnyye Borly deposit is located 27 km northwest of Kourrad. It consists of quartzites containing 10 to 60% andaluzite and stretches over an area of 205,000 sq. m. In one of the better surveyed parts of this area the andaluzite content is 60 to 78%. The Bes-Bekti deposits are located 150 km southeast of Karakalpak and comprise 23.5 sq. km. In some of its parts were found pockets containing 20 to 60% andaluzite. The Ak-Saran deposit is located 150 km south of Karakalpak in the foothills of the Kyzyl-Bai Mountains. The secondary quartzites containing 10 to 70% andaluzite stretch over an area of 3 sq. km. In addition, four outcrops and numerous small veins of almost pure andaluzite were found. The Kara-Cheken deposit, 35 km south of the Bes-Bekti deposit, consists of coarse quartzitic minerals containing 60 to 70% andaluzite and approximately 15% kaolinite. The Karpetal deposit, 120 km southwest of Karakalpak, comprises 10 sq. km. of secondary quartzites. Within it are three areas containing andaluzite. The northeastern area, 280 x 400 m., contains 20 to 80% andaluzite. South of it is an area 1000 x 250 m. containing 20 to 60% andaluzite and 10 to 30% pyrophyllite. The third area, to the northwest, contains 40 to 80% andaluzite. Several kilometers north of Karpetal is the Chok-Berti deposit, comprising 150,000 sq. m. and consisting of secondary quartzites containing 30 to 60% andaluzite, with a maximum of 80%. Forty kilometers southeast of the Morsky Karagand Railroad, north of Kourrad, is the Shabdar-Kara deposit. It consists of three areas containing 15 to 23%, 40 to 50%, and 60 to 70% andaluzite. This area is only partially surveyed and probably contains more than is presently estimated. The Akhal deposit is located 17 km from Ust'-Kamenovsk. The minerals found there are quartz, diaspore, andaluzite, sericite, and, as accompanying minerals, rutile, leucosphenic pyrophyllite, and ferruginous compounds.

(over)

X

content of andalusite and diaspore is 30 to 55%. The reserve of these minerals is estimated at several million tons. The difficulty presented in concentrating this ore is the presence of Ti and Fe. A concentrate containing 50% Al_2O_3 is a definite possibility. This deposit is a valuable raw-material source for the production of alumina and Al metal. The Kos-Kyzyl deposit, 97 km. southeast of Kounrad, consists of two parts; one contains 10 to 40% and the other over 50% andalusite. The deposit "Massiv UP" is located 32 km. southeast of Bektau-Ata. Over a secondary quartzite area of 234,000 sq. m., 40 to 80% andalusite was found. In the deposit of Kazyi Tas, 25 km. south of Ak-Togal, were found four areas of secondary quartzites containing 10 to 85% andalusite enriched by 5 to 15% corundum and diaspore. In addition 30 to 50% alunite was also found. In the northern branches of the Bektau-Ata Mountains is the Telesai deposit covering an area of 270,000 sq. m. and containing 30 to 50% andalusite. The value of andalusite in the production of refractories is proved. It is used in the production of spark plugs, protective coatings in glassmelting pots, stoppers and linings for steel-pouring ladles, refractories for cupolas, etc.

M.Ho.

X

difficulty presented in concentrating this ore is the presence of Ti and Fe. A concentrate containing 30% Al_2O_3 is a definite possibility. This deposit is a valuable raw-material source for the production of silicon and Al metal. The Kos-Kyzyl deposit, 97 km southeast of Kounrad, consists of two parts, one contains 10 to 40% and the other over 50% andalusite. The deposit "Massiv U1" is located 22 km southeast of Bektau-Ata. Over a secondary quartzite area of 211,000 sq. m., 40 to 80% andalusite was found. In the deposit of Kazyl-Tas 25 km. south of Ak-Togai, were found four areas of secondary quartzites containing 10 to 35% andalusite enriched by 5 to 15% corundum and diaspor. In addition 30 to 50% alunite was also found. In the northern branches of the Bektau-Ata Mountains is the Telemes deposit covering an area of 270,000 sq. m. and containing 30 to 50% andalusite. The value of andalusite in the production of refractories is proved. It is used in the production of spark plugs, protective coatings in glassmelting pots, stoppers and linings for steel pouring ladles, refractories for cupolas, etc.

KONOROV, A.V., dotsent; KOSHURNIKOV, N.N., professor.

[Building materials] Stroitel'nye materialy. Moskva, Gos.isd-vo lit-ry po
stroitel'stvu i arkhitekture, 1953. 295 p. (MIRA 6:12)
(Building materials)

16(4) SOV/98-59-4-5/17
AUTHORS: Koshurnikov, N.L., and Komarov, V.K., Engineers
TITLE: Breakdown of a Flood Gate Made of Low-Alloy Steel
(Razrusheniye zatvora iz nizkolegirovannoy stali)
PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 4, pp
23-27 (USSR)
ABSTRACT: The article deals with the breakdown of a 3.5 x 5.7
m flood gate made of "St.NL-2" type low-alloy steel.
The defects consisted of crosswise ruptures and fis-
sures in the central part of the flood gate and also
along its welding joints. In addition to this, the
flood gate had deflected inward as much as 135-150
mm. The breakdown was attributed to insufficient
stability against vibration stress, which in its
turn was caused by the following factors: 1) poor
welding; 2) poor design; 3) incorrect pressure
distribution within the flood gate's framework;
4) wrongly-made apertures and slots which caused
the flood gate vibrate even when closed. The break-

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SOV/98-59-4-5/17

Breakdown of a Flood Gate Made of Low-Alloy Steel

down was also hastened by an exceedingly long service period in a half-opened state, thus promoting vibration. There were no inspections made for as long as two navigation seasons. As a result, the paint had completely disappeared and the flood gate was thus seriously corroded. There are 2 tables, 3 diagrams and 2 Soviet references.

Card 2/2

KOZHURNIKOV, V. L.

Deasphalting of cracked residuum before recycling;
N. N. Kozhurnikov and V. I. Kozhurnikova. *Khimiya
Tver'skoy Oblasti* 1957, No. 3, 28-30. Cracked residuum,
commonly used as road tar, was deasphalted with
propane and used as cracking stock. Cracking of the
deasphalted residuum produced gas 3.5, gasoline 18.6,
kerosene 1.8, residue 66.4, and coke 1.0%.

W. M. Sternberg

QTP
LMT

3

KOSHURNIKOVA, N.A.

Histopathology of the ovaries in chronic inflammation of the fallopian tubes and its residual effects [with summary in English]. Akush. i gin. 33 no.3:74-78 My-Je '57. (MLBA 10:8)

1. Iz Instituta akusherstva i ginekologii (dir. L.G.Stepanov)
Ministerstva zdravookhraneniya RSFSR

(FALLOPIAN TUBES, dis.

with ovarian histopathol. changes (Rus))

(OVARIES, pathol.

changes in fallopian tube dis., histopathol. (Rus))

KOSHURNIKOVA, N.A., Cand Med Sci -- (diss)"Histology
of the ovaries in chronic inflammation of the fallopian
tubes and its ~~remaining appearances~~ *after efforts*." Mos, 1958, 7 pp
(Min of Health USSR. Central Inst for Advanced Training of
Physicians) 200 copies (KL, 39-58, 112)

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28232

S/581/61/000/000/003/020
D299/D304

AUTHORS: Bogatov, L.V. and Koshurnikova, N.A.

TITLE: Changes in the blood system of rabbits with multiple repeated external gamma-irradiation

SOURCE: Lebedinskiy, A.V. and Moskalev, Yu.I., eds. Biologicheskoye deystviye radiatsii i voprosy raspredeleniya radioaktivnykh izotopov; sbornik rabot. Moscow, Gosatomizdat, 1961, 29-37

TEXT: For a fuller study of the changes in the rabbit blood system throughout the whole period of prolonged gamma-radiation a complex study of the findings from hematological and cystological examination of the hemopoietic organs was made. The rabbits were killed off after total doses of 210, 420, 630, 900, 1410, 1920 and 2490 r. A detailed account of the changes in the bone marrow, spleen and lymph nodes is given. These changes can be broken down into 3 periods. Period I from the start of irradiation until a

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X

Changes in the blood system...

28232
S/581/61/000/000/003/020
D299/D304

dose of 630 r. Changes in the peripheral blood and the hemopoietic organs increase. The inhibition of granulocytopoiesis and thrombocytopoiesis in the peripheral blood and the inhibition of lymphocytopoiesis in the spleen and lymph nodes are accompanied by a rise in leukopenia and thrombopenia in the peripheral blood. Thanks to greatly heightened regeneration in the erythropoietic system, the red blood does not change. After a dose of only 60 r relative hyperplasia of the red growth begins. These data are contrasted with those of O.V. Belousova (Ref. 1: Patologicheskaya fiziologiya ostroy luchevoy bolezni (The Pathological Physiology of Acute Radiation Sickness), M., Medgiz, 1958, pp. 192-211). Period I is therefore the period of primary reactions, marked by early simultaneous onset of changes in erythropoiesis and leukopoiesis, inhibition of the white growth and hyperplasia of the red. Period II from 900 r to 1410 r. This is first marked by a sharp drop in the absolute number of erythropoietic cells, followed by stabilization on a low level. The number of nucleus-containing cells in the bone-

Card 2/4

23232

S/581/61/000/000/003/020
D299/D304

Changes in the blood system...

marrow fell to 33% of normal as a result. Mitotic activity was greatly inhibited in both the marrow and the lymphopoietic organs. The lack of rising blood system changes in this period indicates that the rabbits were adapting to the rhythm of irradiation; new reparative processes apparently developed under the protracted irradiation. Period III from 1920 to 2490 r. This is marked by relative normalization of the hemopoietic organs' quantitative composition; total cellularity increases to 66% of normal, as opposed to 33% in period II. Mitotic activity increases and the number of erythroblastic cells rises more intensively. Under protracted irradiation qualitatively new cells, capable of division, can apparently emerge. In both the red and the white blood of the marrow, spleen and lymph nodes cell regeneration proceeds normally, but with greater mobilization of deep reserves of hemopoiesis, as is indicated by the increase in the number of reticular cells. The main preference is for erythropoietic regeneration, as the most important process for the continuation of life. There are 2 figures, 1 table and 20 references: 11 Soviet-bloc and 9 non-Soviet-

Card 3/4

28247

S/581/61/000/000/018/020
D299/D304

27-1220

AUTHOR: Koshurnikova, N.A.

TITLE: The histopathology of the sex glands in rabbits affected by incorporated plutonium

SOURCE: Lebedinskiy, A.V. and Moskalev, Yu.I., eds. Biologicheskoye deystviye radiatsii i voprosy raspredeleniya radioaktivnykh izotopov; sbornik rabot. Moscow, Gosatomizdat, 1961, 164-173

TEXT: In view of the shortage of published data on the effects of incorporated radioactive isotopes, the author made a study of the histopathology of the sex glands in rabbits affected by incorporated plutonium at both near and remote dates after the isotope entered the body. $\text{Pu}(\text{NO}_3)_4$ was injected intravenously in the following doses: group I - 21, group II - 14, group III - 7 and group IV - 2 $\mu\text{c}/\text{kg}$. Groups I and II sustained acute and subacute radiation sickness and mainly died of aplasia of the bone tissue. Groups

Card 1/3

X

The histopathology of the sex glands... ²⁸²¹⁷
S/581/61/000/000/018/020
D299/D304

III and IV showed symptoms of radiation sickness. Group III animals died mainly of cirrhosis of the liver and group IV animals of osteosarcomata. Histological examination showed that part of the plutonium was retained in the connective structures of the sex glands. The incorporated plutonium led to a whole series of pathomorphological lesions which broadly consisted in the damage and death of the parenchymatous elements of the testes and ovaries. The degree of illness varied with the dose of plutonium and the time which had elapsed since its injection. In the early stages the main role in the development of pathological lesions of the sex glands is played by the direct action of radiation; at later stages the general state of the body is of prime importance. The changes in spermatogenesis were of a phase nature: inhibition phases alternated with phases of restoration. Spermatogonia were restored by the undifferentiated cells of the sperm ductules. In the ovaries restoration apparently did not occur under the constant radiation from the incorporated plutonium. There are 2 figures, 2 tables and 17 references: 8 Soviet-bloc and 9 non-Soviet-bloc.

Card 2/3

28247

The histopathology of the sex glands... S/581/61/000/000/018/020
D299/D304

The 4 most recent references to English-language publications read as follows: T. Carter and oth. Brit. J. Radiol., 27, 320, 418 (1954); L.C. Fogg a. R.F. Cowing, Cancer Res., 11, 23, (1951); L. Lamerton, H. Questler, J.P.M. Bensted and oth. British J. Radiology, 32, 380, 501 (1959); R.H. Mole, British J. Radiol., 32, 380, 497 (1959).

J

Card 3/3

27.1220

44073

S/742/62/000/000/015/021
I015/I215

AUTHORS: Lemberg, V.K., Koshurnikova, N.A., Klyzhuk, K.N.

TITLE: The effect of incorporated plutonium-239 on the blood in rabbits

SOURCE: Plutoni-239; raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya. Ed. by A.V. Lebedinskiy and Yu.I. Moskalev. Moscow, Medgiz, 1962, 92-102

TEXT: The effect of incorporated Pu on the blood has been insufficiently studied and the data present in the medical literature is a matter of controversy. Experiments were carried out on 119 rabbits (Shinshil strain) weighing 2500-3000 g. They were administered i.v. 7 and 2 μ Cu/kg b.w. of plutonium nitrate (pH = 2). The

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S/742/62/000/000/015/021
I015/I215

The effect of incorporated plutonium-239...

peripheral blood and the bone marrow were examined during life and after killing of the animals as well. The investigation lasted for 15 months. The distribution of Pu in the hemopoietic organs was studied histoautoradiographically. A part of the radioisotope was retained in the reticulo-endothelial system. The bone marrow was affected focally due to the distribution characteristics of Pu in RES-cells. The lymphatics were relatively well preserved due to poor distribution of Pu in the lymphopoietic organs -(the white pulp of the spleen and the germinative centers of the follicles in lymph nodes). The peripheral blood showed only very slight changes. This was considered as a result of increased hemopoiesis. There are 7 figures and 1 table.

Card 2/2

L 34919-65

ACCESSION NR: AT5006104

S/0000/64/000/000/0042/0061

AUTHOR: Yerokhin, R. A.; Koshurnikova, N. A.; Lyubchanskiy, E. R.; Nifatov, A. P.; Reshetov, G. N. 10
B1

TITLE: Content and microdistribution of plutonium-239 in rat lung and liver and morphological changes in these organs after intratracheal administration of the isotope

SOURCE: Raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya radioaktivnykh izotopov (Distribution, biological effect, acceleration of the excretion of radioactive isotopes); sbornik rabot. Moscow, Izd-vo Meditsina, 1964, 42-61

TOPIC TAGS: plutonium-239, radioisotope, inhalation, liver, lung, pathology, radioactivity, lymphatic system

ABSTRACT: The behavior of plutonium in the lung following intratracheal administration of various salts is determined largely by the physicochemical form of the compound used. The plutonium content of the lungs after administration of the nitrate was 5-10 times higher than after administration of sodium plutonyl triacetate. The clearance of plutonium administered in the form of these two salts obeys the exponential law, but it was more rapid in the case of the second salt. A large quan-

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L 34919-65

ACCESSION NR: AT5006104

tity of plutonium was transported from the lungs by macrophages into the regional lymph nodes. Plutonium accumulated in the liver during the early phase (20 minutes to 24 hours) more slowly after administration of the nitrate than it did after administration of sodium plutonyl triacetate. During the later phases (4 to 6 months) the rate of deposition in the liver was about the same after administration of either form of plutonium - 0.90-0.56 and 0.95-0.57% of the dose administered.

The microdistribution of plutonium in rat liver after intratracheal administration of the two plutonium salts was quite diffuse. Histological changes in the lung varied with the nature of the microdistribution of the element and they arose mainly in the places where the isotope concentrated. The severity of the pathological changes and the time when they developed were related to the ionization dose that accumulated. Among the earliest changes were degeneration, desquamation of bronchial and alveolar epithelium, and perivascular edema. These were followed by chronic inflammation, chiefly productive in character. The pathological process developed into pneumosclerosis as a result of the proliferation of connective-tissue cellular elements with the formation of fibrous structures. No significant morphological changes were noted in the liver after intratracheal administration of 7 μ c/kg of plutonium nitrate or sodium plutonyl triacetate. Orig. art. has: 15 figures, 2 tables.

Card 2/3

L 34919-65

ACCESSION NR: AT5006104

ASSOCIATION: none

SUBMITTED: 10Apr64

NO REF SOV: 000

ENCL: 00

OTHER: 000

0
SUB CODE: LS

Card 3/3

L 34119-65 EWG(j)/EWT(m) GS
ACCESSION NR: AT5006127

S/0000/64/000/000/0217/0224

AUTHOR: Kudasheva, N. P.; Koshurnikova, N. A.

TITLE: Effect of additional pathological agents on the peripheral blood of rats exposed to plutonium-239 17
B+1

SOURCE: Raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya radioaktivnykh izotopov (Distribution, biological effect, acceleration of the excretion of radioactive isotopes); sbornik rabot. Moscow, Izd-vo Meditsina, 1964, 217-224

TOPIC TAGS: plutonium-239, radioisotope, radioactivity, peripheral blood, erythrocyte, leukocyte

ABSTRACT: Additional stresses (repeated bleeding and aseptic inflammation produced by turpentine) placed on rats that had received plutonium in a low dose (0.63 µg/kg) known to have little effect on the peripheral blood failed to produce significant changes in the number of erythrocytes and reticulocytes or the hemoglobin concentration. Nor were there appreciable effects on the white blood cells. The gradual decrease noted in the total number of leukocytes and lymphocytes and the increase in the neutrophils were probably age-related because they were found in both experimental and control animals at more or less the same intervals. Orig. art. has: 4

Card 1/2

L 34119-65

ACCESSION NR: AT5006127

figures, 1 table.

ASSOCIATION: none

SUBMITTED: 10Apr64

NO REF SOV: 000

ENCL: 00

SUB CODE: LS

OTHER: 000

Card 2/2

I 34122-65 EWG(J)/EWT(m) GS
ACCESSION NR: AT5006130

S/0000/64/000/000/0237/0242

AUTHOR: Koshurnikova, N. A.; Leberg, V. K.

TITLE: Long-term effects of aseptic inflammation in rats exposed to plutonium-239

12/1
B+1
79

SOURCE: Raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya radioaktivnykh izotopov (Distribution, biological effect, acceleration of the excretion of radioactive isotopes); sbornik rabot. Moscow, Izd-vo Meditsina, 1964, 237-242

TOPIC TAGS: plutonium-239, radioisotope, radioactivity, tumor, bone, hemopoiesis

ABSTRACT: Aseptic inflammation was induced in the animals by subcutaneous administration of 0.1 ml of turpentine once every 2 weeks for 3 months. Turpentine is not a carcinogen; it results in inflammation with an acute leukocyte reaction. The turpentine combined with low doses of Pu²³⁹ (0.63 µc/kg) shortened the survival time of the experimental female rats. Aseptic inflammation reduced the number of bone and blood tumors in the animals of both sexes. However, repeated injections of turpentine, the administration of small amounts of Pu²³⁹, and a combination of the two factors caused some increase in the number of glandular tumors in the experimental rats. The tumors were often multiple, e.g., in the females, tumors of the hypophysis were often combined with mammary and ovarian tumors. The authors

Card 1/2

L 34122-65

ACCESSION NR: AT5006130

ascribe the lack of osteosarcomas to the inhibitory effect of turpentine on the development of neoplasms in bony tissue. Orig. art. has 3 tables.

ASSOCIATION: none

SUBMITTED: 10Apr65

NO REF SOV: 000

ENCL: 00

SUB CODE: LS

OTHER: 000

Card 2/2

L 24233-66 ENT(m)

ACC NR: AP6014669

SOURCE CODE: UR/0241/65/010/010/0037/0041

AUTHOR: Yerokhin, R. A.--Erokhin, R. A.; Koshurnikova, N. A.; Ternovskiy, I. A.--
Ternovsky, I. A.

ORG: none

TITLE: Gamma-spectrometric intravital determination of Pu in the living organism

SOURCE: Meditsinskaya radiologiya, v. 10, no. 10, 1965, 37-41

TOPIC TAGS: plutonium, gamma spectrometer, radiology, americium, scintillation spectrometer, photomultiplier, pulse analyzer, pulse amplitude, rat, liver/FEU-24 photomultiplier, AI-100 pulse analyzer

ABSTRACT: The results of an experimental determination of the possibility of the direct intravital measurement of ^{239}Pu and Am^{241} in the organism by means of a scintillation gamma-spectrometer are presented. The principal components of the spectrometer used were: a NaI(Tl) scintillation crystal 20 mm thick and 40 mm in diameter, with an FEU-24 photomultiplier and an AI-100 pulse-amplitude analyzer. White rats were given, intravenously or intratracheally, Pu in the form of the nitrate salt $[\text{Pu}(\text{NO}_3)_4]$ with a pH value of 2.0, in the amount of 5 microcuries per rat, or Am^{241} in the form of the nitrate $[\text{Am}(\text{NO}_3)_3]$ with a pH of 2.8, in the amount of 2.72 microcuries per rat. The Pu and Am^{241} contents of the rat organism were measured immediately afterward as well as at intervals of 1, 2, 4, 8, 16, 32, and 64 days. Lung activity varied identically in rats intratracheally poisoned with Pu and Am^{241}

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UDC: 616-008.927.994-073.584

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ACC NR: AP6014669

nitrate: toward the 16th day the activity dropped 30%; toward the 32nd day, 50%; and toward the end of the experiment, 65%. Throughout the experiment, the content of Pu exceeded that of Am²⁴¹. The dynamics of the change in liver activity following administration of the Pu nitrate toward the 3rd, 7th, 30th, and 60th day was 87, 72, 41.8, and 22.5%, respectively, for Am²⁴¹ these dynamics differed somewhat. In addition, the minimum amounts of Pu and Am²⁴¹ still detectable by the spectrometric method in different organs (kidneys, liver, hip, spleen) were determined; for Pu they were found to correspond to 0.019-0.045 microcuries per rat organ, and for Am²⁴¹, to 0.0028-0.0087 microcuries per rat organ. Orig. art. has: 2 figures and 4 tables. [JPRS]

SUB CODE: 06, 09, 20, 07 / SUBM DATE: 12Jan65 / ORIG REF: 003 / OTH REF: 005

Card 2/2 data

KOSHUROV, B.V., kand. tekhn. nauk; PAVLYUCHUK, A.I.; TAYTS, Ye.I.;
FEDOTOV, A.I.; VAKSER, D.B., red.; FREGER, D.P., red. izd-
va; BELOGUROVA, I.A., tekhn. red.

[Use of diamond tools in the manufacture of machinery] Pri-
menenie almaznogo instrumenta v mashinostroenii; stenogramma
lektsii. Leningrad, Leningr. dom nauchno-tekhn. propagandy,
1963. 30 p. (MIRA 16:7)
(Diamonds, Industrial) (Metal cutting)

KOSHUTA, A.A.

Use of a multiple correlation method for establishing the relationship between the cost of electrical machines and their principal parameters. Energ. i elektrotekh. prom. no.1:47-51 '62. (MIRA 15:6)

1. Khar'kovskiy inzhenerno-ekonomicheskii institut.
(Electric machinery--Accounting)

KOSHUTA, Aleksandr Aleksandrovich; STEBUNOV, N.S., red.;
SLUTSKINA, TS.S., mlad. red.

[Determining prices for the products of machinery
manufacturing] Opređenje tšen na produkciiu mashino-
stroenii. Moskva, Ekonomika, 1964. 75 p.
(MIRA 17:11)

BAT', A.A.; KOSHUTIN, B.N. (Moskva)

Statistical studies of crane loads. Stroi.mekh.i rasch.
soor. 2 no.3:1-5 '60. (MIRA 13:6)
(Strains and stresses) (Cranes, derricks, etc.)

KOSHUTIN, B. N., Cand. Tech. Sci. (diss) "Determination of Co-efficient of Overloading of Vertical Crane Load on Basis of Statistical Study of Operation of Cranes in Working Shops," Moscow, 1961, 26 pp. (Acad. of Construc. and Archit. USSR. Centr. Sc. Res. Inst. Construction Designs "TsNIISK") 160 copies (KL Supp 12-61, 269).

KOSHUTIN, M.P.

PHASE I BOOK EXPLOITATION 1076

Leningrad. Politeknicheskiiy institut

Dinamika i prochnost' mashin; (Dynamics and Strength of Machines; Collection of Articles) Moscow, Mashgiz, 1958. (Series: Its: Trudy, No. 192) 234 p. 3,300 copies printed.

Ed.: Lur'ye, A.I., Doctor of Technical Sciences, Professor;
Tech. Ed.: Pol'skaya, R.G.; Resp. Ed. of Series: Smirnov, V.A.,
Doctor of Technical Sciences, Professor; Managing Ed. for Literature
on the Design and Operation of Machines (Leningrad Division,
Mashgiz): Fetisov, F.I., Engineer.

PURPOSE: This collection of articles is intended for scientific and engineering workers concerned with problems of dynamics and strength of machines.

COVERAGE: The collection contains articles on problems of the theory of elasticity, oscillation, and automatic control.

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Dynamics and Strength of Machines (Cont.) 1076

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3. Koshutin, M.P. Problem of Bending a Cylindrical Shell 28
4. Lur'ye, A.I. and Prokopov, V.K. Calculation of Forces Acting on Spheres Supporting an Eccentrically Loaded Plate 36
5. Prokopov, V.K. Equilibrium of a Hollow Cylinder of Finite Length Loaded Symmetrically About its Axis 43

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10. Lur'ye, A.I. and Osorin, V.I. Application of Extremal Chebyshev Polynomial to Synthesize the Mechanical Layout of a Vibrotransmitter Designed for Slowly Varying Overloads 109

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 12. Vasyutinskiy, S.B. and Nagayenko, G.P. Design Diagrams and Basic Equations of Electrodynamic Vibrators 141
 13. Sorokov, S.A. Vibrations of a Circular Arc Under Concentrated Load 154

AUTOMATIC CONTROL

14. Dolgolenko, Yu. V. Exact Determination of Partially Sliding Periodic Regimes in Relay-operated Control Systems 171
15. Troitskiy, V.A. Self-vibrations in Controlled Systems With Several Control Elements 201

Card 4/5

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825110020-2"
Dynamics and Strength of Machines (Cont.) 1076

16. Troitskiy, V.A. Stability of Intermittent-control Systems With Two Pulse Elements 220

AVAILABLE: Library of Congress

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1-27-59

Card 5/5

ROLIK, A.I.; KOSHVANETS, A.Ye.; YAKOVLEV, A.I.

Study of the operation of axial fans in the cooling system of
high-speed PS motors. Energ. i elektrotekh. prom. no.3:38-42
Jl-S '63. (MIRA 16:10)

1. Khar'kovskiy aviatsionnyy institut.

TRINAJSTIC, Ljubo, inz.; Kesi, Otmar, inz.

Problems of schools and skilled vocational cadres
for chemical industries and scientific research.
Alm hem ind 239-257 '62.

VERESCAGIN, I.K. [Vereshohagin, I.K.]; KOSIACENKO, L.A.

On avalanche processes in electroluminescence of single ZnS-Cu crystals. Chekhosl fiz zhurnal 13 no.2:85-88 '63.

1. State University, Chernovtsy, U.S.S.R.

I 21911-66 EIT(m)/EPR(n)-2

ACC NR: AP6011165

SOURCE CODE: PO/0046/65/010/011/0661/0668

AUTHOR: Florkowski, Tadeusz--Florkowski, T.; Kosiara, Andrzej--Kosyara, A.;
Wasilewska, Marta--Vasilevska, M.

41
B

ORG: Nuclear Engineering Institute, AGH, Krakow (Instytut Techniki Jadrowej AGH)

TITLE: Comparison of radioisotope bremsstrahlung sources¹¹ for excitation of the characteristic radiation in elements of A less than or equal to Z less than or equal to 50

SOURCE: Nukleonika, v. 10, no. 11, 1965, 661-668

TOPIC TAGS: bremsstrahlung, radioisotope, titanium, zirconium, promethium, x ray

ABSTRACT: Results of measurements for the determination of the detection efficiency of the characteristic x rays of light elements excited by the three bremsstrahlung sources $^3H/Ti$, $^3H/Zr$ and $^{147}Pm/Al$ are described. The detection of characteristic x rays of elements, which have the atomic number lower than 20 was performed in the hydrogen and helium atmosphere, what appreciably increases the total detection efficiency. The authors thank Prof.-Dr. L. Jurkiewicz for valuable advice and discussions on the carrying-out of the measurements as well as Dr. K. Ostrowski for discovery of the new type of proportional counter. Orig.art. has: 9 figures and 1 table. NA

SUB CODE: 18, 20 / SUBM DATE: 000064 / ORIG REF: 001 / OTH REF: 002

Card 1/1 *mas*

KOSIARSKI, A.

Universal valve voltmeter. p.7.

RADIOAMATOR. (Publication for amateur radio operators. Title varies: before 1954, Radio Amator. Monthly). Warszawa, Poland. Vol.5, no.4, Apr.1955.

Monthly list of East European Accessions (EEAI), LC, Vol.9, no.1, Jan.1959.

Uncl.

KOSIARZ, E.

Polish War Fleet in World War II. Pt. 6. In the English Channel
and on American shores. P. 6.
MORZE. (Liga Morska) Warszawa.
No. 4, Apr. 1956

SOURCE: EEAL LC Vol. 5, No. 7, July 1956

KOSIARZ, E.

Polish War Fleet in World War II. Pt. 7.
The last year of war. (To be contd.) P. 6.
MORZE. (Liga Morska) Warszawa.
Vol. 11, no. 6, June 1956

SOURCE: EEAL LC Vol. 5, No. 7, July 1956

1ST AND 2ND ORDER PROCESSES AND PROPERTIES INDEX

19D AND 4TH ORDER

AMS/A+B 1950 m

8-115 551 582(438)

Kusiba, Aleksander. Klimat ziem Śląskich. [The climate of Silesia.] Katowitz, Wydawnictwa Instytutu Śląskiego, 1948. 424 p. 18 figs., 35 tables, 75 refs. (Zagadnienia Geograficzne Śląska, Ser. 2, No. 9.) DWB -An analytical and descriptive study of the climate of Polish Silesia for the use of Poles recently moved to the newly acquired territory of Silesia, to provide them with information as an aid in their economic and agricultural activities. The approach is through seroptic rather than classical climatology - followed by discussion of the means and frequencies of the ordinary climatic elements, plus data and discussion of radiation, albedo, soil and snow temperatures, evaporation, wind frequencies, snow cover and periodic changes in temperature and precipitation. Titles of the figures and tables are given in both Polish and English. Subject Headings: Climatology, Silesia, Poland. -M.R.

ASR-5L4 METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDER PROCESSES AND PROPERTIES INDEX

19D AND 4TH ORDER

1ST AND 2ND ORDER PROCESSES AND PROPERTIES INDEX

19D AND 4TH ORDER

KOSIBA, ALEKSANDER

Czestosc szaty sniezhnej na Ziemiach Slaskich. Wroclaw, Naki.
Wroclawskiego T_ow. Naukowego, 1949, p. 90.

SOURCE: East European Accession List (EEAL) Library of Congress
Vol. 5, no. 7, August 1956.

AMS/AYB

MAR 1961

2.3-60 551.519:551.583.3
 Kneib, Alexander. *Wiekture zagnadionie spinie) cyrculacji atmosferycznej*. [Some problems of atmospheric circulation.] *Casopisne Geograficzne, Lodz, Poland*, 20(1-4):59-80, 1969. 4 Apr., 48 refs. English summary p. 80. DLO--Discusses recent work on the atmospheric circulation in the zone of westerlies up to very high levels and its bearing on variations of climate. The latter depend on the position in regard to centers of high and low pressure and their dynamic or thermal origin. During the Quaternary glaciation the thermal contrasts were greater, especially across Europe and the Alps to the Mediterranean, and this caused modifications in the circulation. *Subject Headings: Zonal circulation, Climate variations, Europe.*—C.R.P.B.

4/10/61

ASB-5.5.A METALLURGICAL LITERATURE CLASSIFICATION

*American Meteorological
Society*

Snow & Ice

3.11-210

Kosiba, Alexander, Czestosc szaty snieznej na Ziemiach Slaskich. (Frequency of snow cover over the Silesian Territory.) Wroclawski Towarzystwo Naukowe, Prace, Ser. B., No. 21, 1949. 92 p. 17 figs. 2 maps, 34 tables, 122 refs. MH-BH, DLC-A detailed technical and statistical study of many aspects of snow cover in Silesia-One of the best works of this kind published. The general appearance, formation, thermal conductivity radiation characteristics (solar radiation on surface and at different depths), outgoing radiation, thermal balance of ground and soil moisture under the snow cover atmospheric turbidity and heatbalance in lower levels above the snow cover, snow cover in relation to ecological, bioclimatic and transportation or communication conditions, hydrological factors (snow melt and runoff and lastly the sources and nature of observational data used in this study are discussed. Detailed color charts, analytical and statistical diagrams and tables and an excellent bibliography are included. Subject Headings: 1. Snow characteristics- cover 2. Snow characteristics 3. Silesia, Poland. M.R.

KOSIBA, Aleksander

3
③ Yes

Meteorological Abst.
Vol. 4 No. 2
Feb. 1953
Radiation and Temperature

4.2-135
Kosiba, Aleksander, Zagadnienie pionowych różnic klimatycznych w przyziemnych warstwach atmosfery. [The question of vertical climatic differences in the lowest strata of the atmosphere.] *Przegląd Meteorologiczny i Hydrologiczny, Rocznik, 1950-1951:98-110, 1951.* fig., 3 tables. English summary p. 103-110. DWB—This is a comparative analysis of temperatures at standard level of 2 m above ground level and at 5 cm height. The measurements were made at the Institute of Meteorology and Climatology of the Wrocław University during 1949. Monthly and yearly values of: mean temperatures taken 3 times daily, average and absolute temperature minima and maxima, mean daily amplitude, highest and lowest daily mean temperature, as well as the number of days with characteristic temperature at both levels are tabulated and discussed. The author emphasizes the importance of these temperature differences and the need of further investigations of the phenomenon with regard to agriculture. *Subject Headings: 1. Vertical temperature gradient 2. Microclimatology 3. Temperature variations 4. Agricultural meteorology 5. Poland.—A.M.P.*

551.524.4: 551.584.4(438)

KOSIBA, Aleksander

(2) geo

Meteorological Abst.
Vol. 5 No. 1
Jan. 1954
Part 1
Meteorological
Observations and
Instruments

5.1-39 551.506(438)
*Kosiba, Aleksander (ed.), *Observacje dobowe we Wroclawiu. Observations journalières à Wroclaw 1950.* [Daily observations at Wroclaw, 1950.] *Wroclaw, Observatorium Meteorologii i Klimatologii, Prace*, No. 5:4-48, 1952, 13 tables. In Polish; legends and summary (p. 59) in French. DWB - Complete observational data (three times daily) for the usual climatological elements, including also visibility and sunshine duration. Monthly summaries give also deviation from mean. Weather processes in 1950 are reviewed in detail. *Subject Headings: 1. Observational data 2. Wroclaw, Poland.--J.A.*

KOSIBA, A.

"Problem of Moisture Balance in Silesia in the light of Variations of Relative Humidity." P. 58, (PRZEGLAD METEOROLOGICZNY I KRYOLOGICZNY, Vol. 5, No. 3/4, 1952. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

KOSIBA, A.

"Conditions of the formation of various forms of crystals in atmospheric snow."
Gazeta Obserwatora. P.I.H.M., Warszawa, Vol 6, No 12, Dec. 1953, p. 1

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

KOSIBA, ALEKSANDER.

Opady sniezne na Slasku. Wroclaw, Panstwowe Wydawn. Naukowe, 1954.
40 p. (Wroclawskie Towarzystwo Naukowe. Prace. Serie B. nr. 71.)
(Snowfall in Silesia. fold, maps, diags., bibl., tables)

So. East European Accessions List Vol. 5, no. 1, Jan. 1956

KOSIBA, A.

"The Snowfalls in Silesia", P. 136, (ACTA GEOGRAPHICA POLONICA, Vol. 2,
No. 3, 1954, Warsaw, Poland)

SO: Monthly List of East European Accessions (EIAL), LC, Vol. 4, No. 3,
March 1955, Uncl.

KOSIBA, Aleksander

16.10.215

Kosiba, Aleksander (Univ. of Breslau), *Acta Geophysica Polonica, Wroslaw*, 2(4):115-122, 1954. 7 figs., 5 refs. Polish summary p. 189-191. DWB—Mean annual and growing season precipitation data for 370 stations in Silesia for 1899-1930 are plotted against elevation of station on 2 respective charts to determine the magnitude of and location of anomalies. However, Schneekoppe was eliminated as being at too high an elevation, so data is limited to 0 to 1600 m. Large positive and negative anomalies can be grouped regionally and an explanation is attempted. *Subject Headings:* 1. Altitude effects on precipitation. 2. Orographic effects on precipitation. 3. Precipitation-altitude relationship. 4. Silesia. 5. Poland. M.R.

351.577-851.43

Anomalies of the precipitation sums in Silesia. Growing season precipitation data for 370 stations in Silesia for 1899-1930 are plotted against elevation of station on 2 respective charts to determine the magnitude of and location of anomalies. A different curve can be drawn for lowland than for high elevation stations. However, Schneekoppe was eliminated as being at too high an elevation, so data is limited to 0 to 1600 m. Large positive and negative anomalies can be grouped regionally and an explanation is attempted. *Subject Headings:* 1. Altitude effects on precipitation. 2. Orographic effects on precipitation. 3. Precipitation-altitude relationship. 4. Silesia. 5. Poland.

GP

KOSIBA, A.

"Improving the surveying of evaporation in Poland". p. 12, (GAZETA OBSERWATORA
Vol. 7, No. 1, 1953 Published 1954. Warszawa, Poland)

SO: Monthly List of East European Accessions. (EPAAL). LC. Vol. 4, No. 4,
Apr 1955. Uncl.

KOSBA, ALEXANDER

Kosba, Aleksander. *Śnieg* (Snow) klasyfikacji według atmosferycznego. [On a new classification of atmospheric snow.] *Prace Meteorologiczne i Hydrologiczne*, Warsaw, 7(1/2):19-30, 1954. 2 illus. English summary p. 29. DWB, DLC—The new international classification of snow developed by V. J. CHAPFER, C. J. KEVIN and M. R. DE QUERVAIN, accepted by the Congress of the I.U.C.T. at Brussels in 1951 and forwarded to the WMO for approval (from the meteorological viewpoint) is explained with tables and graphs and reviewed in respect to its applicability in Poland. The classification has been found to be incomplete and in need of modifications both from scientific and practical viewpoints. A number of phenomena and properties of snow, as classification of avalanche and firm snow have been completely omitted and there are deficiencies in the classification of Arctic snow. For the temperate zone (including Poland) the classification should be supplemented by a description of hydrologic properties of snow important for the forecasting of ground water and runoff reserves, which can be best calculated on the basis of snow density according to the shape of the snow crystals, as introduced in KEVIN's scale of snow density. *Subject Headings:* 1. Snow classification 2. Snow cover 3. Poland—A.M.P.

HO

KCSIB, A.

"Relationship between the occurrence of crystals of ice in the atmosphere and the occurrence of storms."

Gazeta Obserwatora, P.I.H.M., Warszawa, Vol 7, No 3, Mar. 1954, p. 2

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

KOSIBA, Aleksander

KOSIBA, Aleksander: "Działalności naukowe Eugenia Romera w dziedzinie Klimatologii " (Eugeniusz Romer's scientific Activities in Climatology). Czasopismo geograficzne, Warsaw, 26 (1/2): 76-125, 1955.