SEMENSKIY, Ye.P., kandidat tekhnicheskikh nauk; BERESNEVICH, V.V.

Mechanization of cut-peat sampling in quality determination at transshipment stations. Torf.prom. vol. 30 no.11:14-17 N-D '53. (MLRA 6:11)

1. Moskovskiy torfyanoy institut (for Semenskiy). 2. Glavnaya inspektsiya po kachestvu torfa (for Beresnevich). (Peat industry)

BERESNEVICH, V.V.

Experience of the Murav'evsk peat enterprise. Torf.prom. 30 no.10:25-27 O '53. (MLRA 6:10)

(Murav'evsk--Peat industry) (Peat industry--Murav'evsk)

BERESNEVICH, V.V.

Peat Industry

"Thermometer TOM-2 for temperature control of cut peat stocks"
Torf. prom. 29, no. 5, 1952

BERESNEVICH, V.

In the Fuel and Power Engineering Section of the Technical and Economic Council of the Economic Council of Moscow Province.
Torf.prom. 39 no.3:35-36 '62. (MIRA 15:4)
(Peat machinery)

BERESNEVICH, V.

Introducing the All-Union State Standard 5396-60 "Fuel peat. Methods for recovering and processing samples for laboratory tests." Torf. prom. 38 no.7:34-35 '61. (MIRA 14:12)
(Peat--Testing)

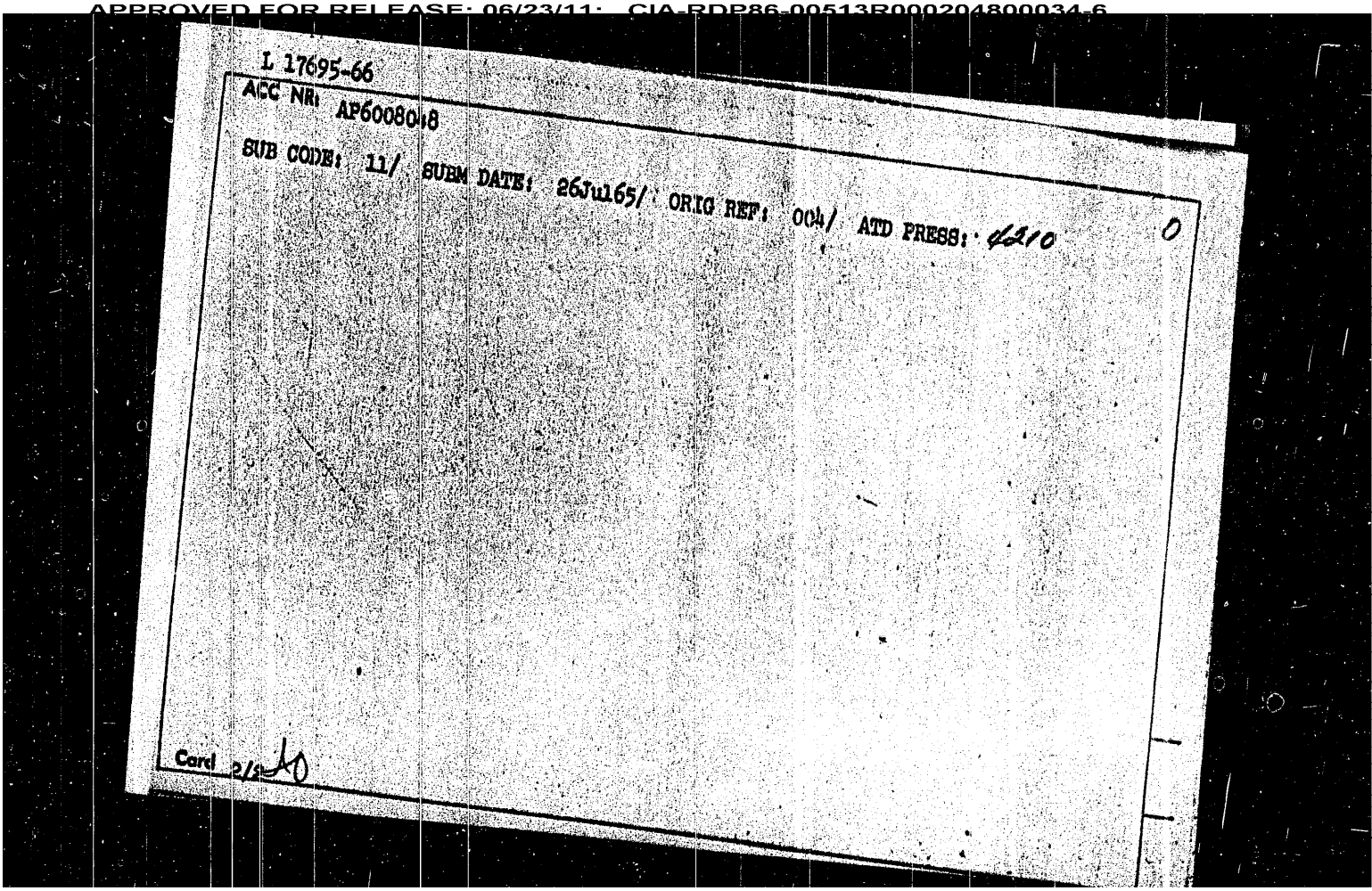
SERBIN, V.I.; BERESNEVICH, P.V.; ANDRYUSHCHENKO, A.V.; SAZONOV, V.A.; SHESTOKOV, M.M.

Experience in waste stacking in the zones of caving of operating mines. Gor. zhur. no.10:41-45 O '65. (MIRA 18:11)

1. Institut Krivbassproyekt (for Serbin, Beresnevich, Andryushchenko).
2. TSentral'nyy gornoobogatitel'nyy kombinat (for Sazonov, Shestakov).

SERBIN, V.I.; BERECHEVICH, [illegible]; PUPKOV?, G.[illegible] [illegible], N.F.

Using transloading points at Krivoy Rog basin strip mines. Met. i gornorud. prom. no.6:60-61 N-D '64. (MIRA 18:3)



L 17695-66 EWP(j)/EWT(m) RM

ACC NR: AP6008048 SOURCE CODE: UR/0020/66/166/004/0874/0875

AUTHOR: Kargin, V. A. (Academician); Berestneva, Z. Ya.; Kalashnikova, V. G.

ORG: Physicochemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut) 24 B

TITLE: Electron microscopic study of SKF-26-type fluorocarbon rubber 15,44,

SOURCE: AN SSSR. Doklady, v. 166, no. 4, 1966, 874-875 and insert facing page 874

TOPIC TAGS: fluorocarbon rubber, elasticity, morphological form, fibrile, globule,

ABSTRACT: The morphological forms of vulcanizates of SKF-26-type fluorocarbon rubbers have been studied by electron microscopy. The purpose of the study was to establish the relationship between the poor elastic properties of fluorocarbon rubber vulcanizates and their morphology. The experiments were conducted with films and bulk specimens of SKF-26 vulcanizates. It was found that the specimens consisted of ~1000Å globules separated by a "binder". The binder contained some fibrillar formations which appeared distinctly in stretched films. Thus SKF-26 vulcanizates contain two morphological forms: globules and fibrils. In non-stretched specimens the two forms are in equilibrium. In the course of stretching, the globules decoil and the content of the fibrillar forms increases. This accounts for the elasticity of the material. The poor elasticity of fluorocarbon rubbers is, probably, due to the prevalence of globular forms. Orig. art. has: 4 figures. [BO]

Card 1/2

ROZENMAN, L.A.; BERESNEVA, Ye.I.

Result of comparative study of anti-diphtheria serums. Sovet. med. 16 no.3:18-22 Mar 1952. (CLML 22:1)

1. Candidate Medical Sciences for Rozenman. 2. Of the Infectious Division (Head -- Doctor Medical Sciences M. Ye. Sukhareva) of the Department of Pediatrics, Central Institute for the Advanced Training of Physicians (Head of Department -- Prof. G. N. Speranskiy, Active Member AMS USSR).

BERESNEV, V.N.

Neutralization of acid vapors in front of the RMK-2 vacuum pump.
Gidroliz. i lesokhim.prom. 16 no.3:24-25 '63. (MIRA 16:5)

1. Neyvo-Rudyanskiy lesokhimicheskiy kombinat.
(Vacuum apparatus) (Wood--Chemistry)

RABINERZON, M.A.; KALAUS, A.Ye.; BERESNEV, V.N.; DROZDOV, V.A.

Research on and development of the conditions for the coagulation of latexes containing nekal and soaps of carboxylic acid using sodium chloride and recycling the serum. Kauch. i rez. 20 no. 4:16-22 Ap '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni S.V. Lebedeva i Voronezhskiy zavod sinteticheskogo kauchuka.

(Latex) (Coagulation)

BERESNEVA, V.N.

How various cultivation methods affect microbiological processes in turf-Podzolic soils. Trudy Inst. mikrobiol. no.7:82-86 '60.
(MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennoy mikrobiologii Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni Lenina.
(TILLAGE) (SOIL MICRO-ORGANISMS)

SELIBER, G.L., otv.red.; BERESHEVA, V.N., red.; NORKINA, S.P., red.; SHKLYAR, M.Z., red.; KARTASHEVA, N.M., red.; ANTONOVA, N.M., khudozh.-tekhn.red.

[Russian microbiologists S.N.Winogradsky and V.L.Omelianskii] Russkie mikrobiologi S.N.Vinogradskii i V.L.Omelianskii. Moskva, Izd-vo M-va sel'.khoz.SSSR, 1960. 83 p. (MIRA 13:10)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I. Lenina.
(Winogradsky, Serge, 1856-1953)
(Omelianskii, Vasilii Leonidovich, 1867-1928) (Soils--Bacteriology)

SAMOYLOV, I.I., akademik, glavnyy red. [deceased]; BEREZOVA, Ye.F., doktor biolog.nauk, zamestitel' glavnogo red.; BYLINKINA, V.N., kand.biolog.nauk, red.; BERESNEVA, V.N., kand.biolog.nauk, red.; DOROSINSKIY, L.M., kand.biolog.nauk, red.; PROKHOROV, M.I., kand. biolog.nauk, red.; MAKAROVA, M.M., kand.biolog.nauk, red.; KRONGAUZ, Ye.A., red.; ZUBRILINA, Z.P., tekhn.red.

[Microbiology in the service of agriculture] Mikrobiologiia na sluzhbe sel'skomu khoziaistvu. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 309 p. (MIRA 13:8)

1. Leningrad. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennoy mikrobiologii. 2. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Samoylov). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennoy mikrobiologii (for Berezova, Dorosinskiy).
(Bacteriology, Agricultural)

BERESNEVA, V.N.; MOROZOVA, N.F.

Microflora of turf-Podzolic soils tilled by different methods.
Trudy Vses. inst. sel'khoz. mikrobiol. no.14:63-74 '58.
(MIRA 15:4)

(Soils--Microbiology) (Podzol) (Tillage)

BERESNEVA, V.N., kandidat biologicheskikh nauk.

Invisible helpers. Nauka i zhizn' 20 no.12:14-16 D '53.
(MLRA 6:12)
(Microorganisms, Nitrogen-fixing)

BERESNEVA, V.N., kandidat biologicheskikh nauk; LYAPSHINA, Z.F., kandidat biologicheskikh nauk.

Role of soil microflora in the development and destruction of soil structure. Trudy Vses.inst.sel'khoz.mikrobiol. 13:42-50 '53. (Soil microorganisms) (Soil physics) (MLRA 8:1)

1. BERESNEVA, V. N.

2. USSR (600)

4. Bacteriology, Agricultural

7. Introduction, Trudy Vses.inst.sel'khoz.mikrobiol 11 no. 2, 1951

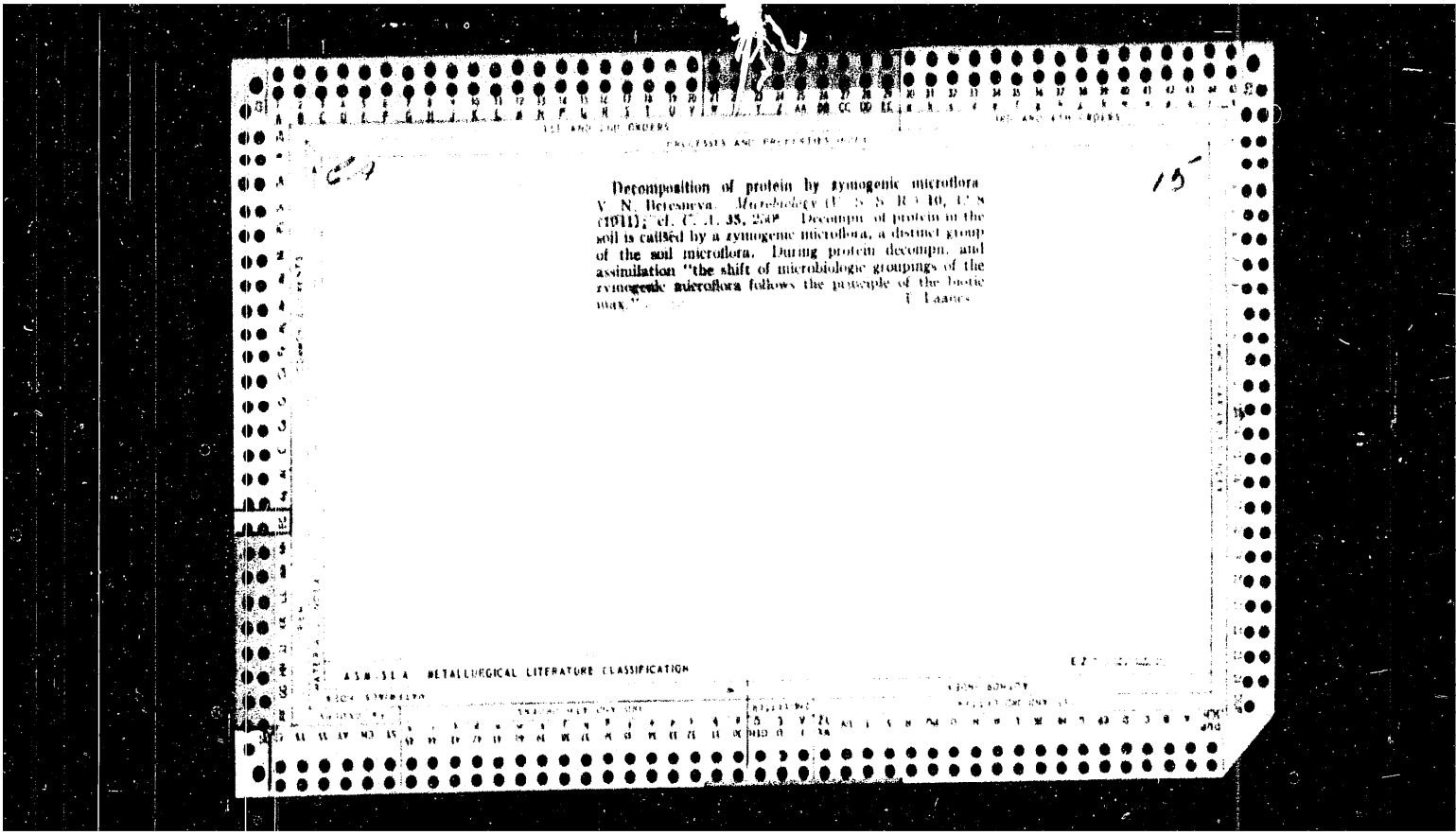
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

1. BERESNEVA,V. N. - EDITOR

2. USSR (600)

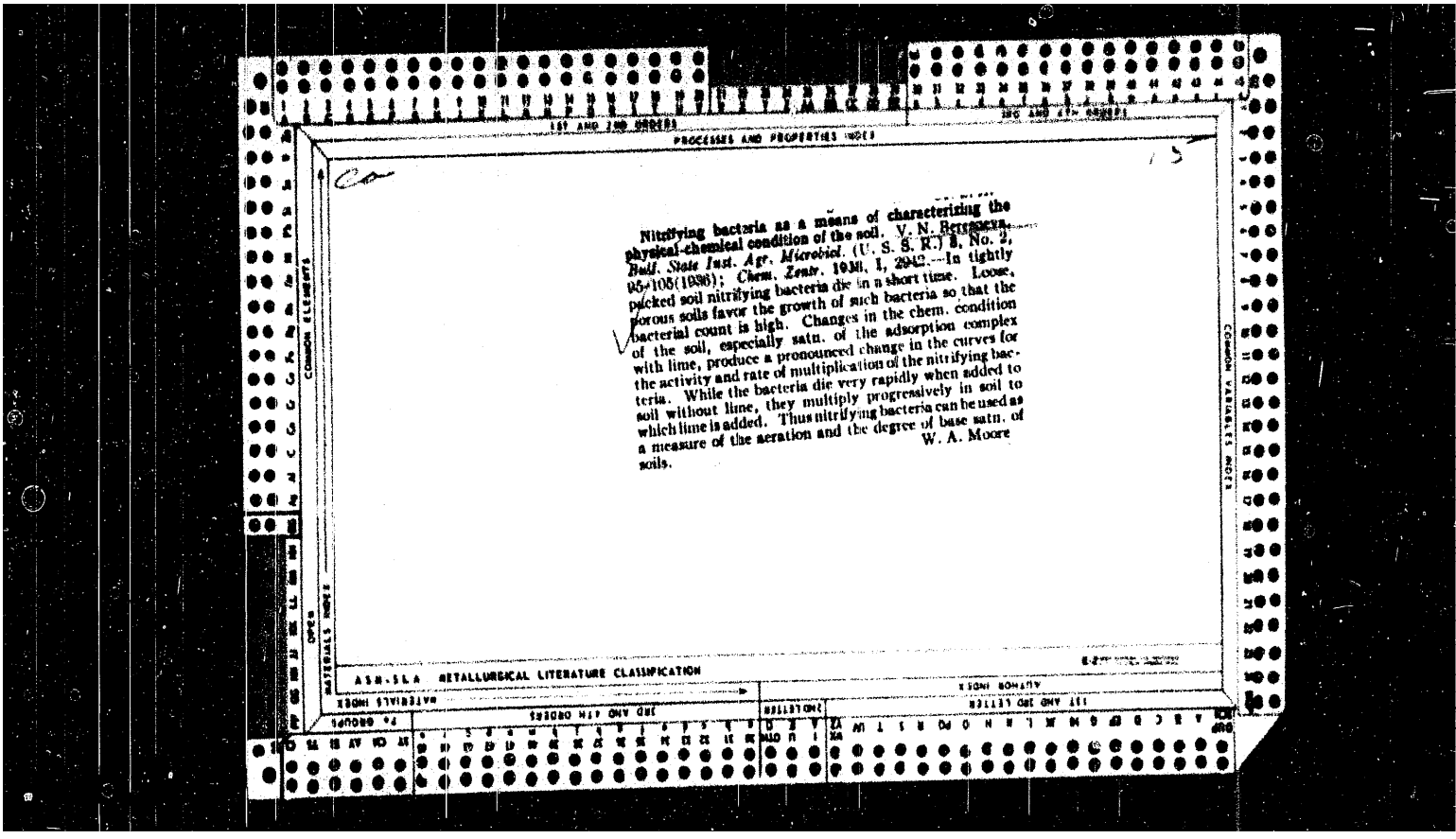
7. Ispol'zovaniye Mikroorganizmov dlya Pervichnoy Pererabotki Sel'skokhozyaystvennogo Syr'ya. (Sbornik Statey) (The Utilization of Microorganisms for Primary Processing of Agricultural Raw Materials. (Symposium of Articles)), Under the Editorship of Doctor of Agricultural Sciences G. L. Seliber and Bachelor of Biological Sciences V.N. Beresneva, 160 pp, Moscow-Leningrad, 1951

9. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952, pp 121-132. Unclassified.



Decomposition of protein by zymogenic microflora. V. N. Beresneva. *Microbiology* (U. S. S. R.) 10, 1-8 (1941); cf. C. A. 35, 2507. Decompn. of protein in the soil is caused by a zymogenic microflora, a distinct group of the soil microflora. During protein decompn. and assimilation "the shift of microbiologic groupings of the zymogenic microflora follows the principle of the biotic wave." I. Lasnes

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Nitrifying bacteria as a means of characterizing the physical-chemical condition of the soil. V. N. Berzenina. *Bull. State Inst. Agr. Microbiol.* (U. S. S. R.) 3, No. 2, 95–105(1936); *Chem. Zentr.* 1938, I, 2942.—In tightly packed soil nitrifying bacteria die in a short time. Loose, porous soils favor the growth of such bacteria so that the bacterial count is high. Changes in the chem. condition of the soil, especially satn. of the adsorption complex with lime, produce a pronounced change in the curves for the activity and rate of multiplication of the nitrifying bacteria. While the bacteria die very rapidly when added to soil without lime, they multiply progressively in soil to which lime is added. Thus nitrifying bacteria can be used as a measure of the aeration and the degree of base satn. of soils.

W. A. Moore

BERESNEVA, T.V.

Scientific session on the problems of tuberculosis control in the Republic. Zdrav.Kazakh. 22 no.7:76-78 '62. (MIRA 16:1)
(KAZAKHSTAN--TUBERCULOSIS--PREVENTION)

BERESNEVA, T.V.

Scientific and practical session of the Kazakh Medical Institute in Taldy-Kurgan and Talgar. Zdrav. Kazakh. 22 no.5:77 '62. (MIRA 15:6)

(MEDICINE--CONGRESSES)

PECHKOVSKIY, V.V.; ZVEZDIN, A.G.; BERESNEVA, T.I.

Kinetics of the thermal decomposition of magnesium, zinc, copper, and cobalt sulfates. Kin.i kat. 4 no.2:208-213 Mr-Ap '63. (MIRA 16:5)

1. Permskiy politekhnicheskiy institut.
(Sulfates) (Chemical reaction, Rate of)

BERESNEVA, R.F.

Beetle granary pests (Coleoptera) in the southern provinces of Kazakhstan. Trudy Inst.zool.AN Kazakh.SSR 11:96-107 '60.(MIRA 13:11)
(Kazakhstan--Beetles) (Grain--Diseases and pests)

BERESNEVA, I.A.

Characteristics of the thermal regime of the spring and autumn periods in the northern hemisphere. Trudy GGO no.180:137-149 '65. (MIRA 18:9)

BERESNEVA, I.A.

World maps of dates of the beginning and end of frosts and the length of the frostless season. Trudy GGO no.132:3-12 '62.
(MIRA 15:8)

(Frost--Maps)

BERESNEVA, I. A. and DANILOVA, L. P.

"Influence of a Flatland Upon the Precipitation and Water Cycle". Trudy Gl. geofiz. observ., No 45, pp 44-54, 1954.

The influence of elevations upon the distribution of precipitation in the European USSR territory, including the Urals, is made more precise. Data from climate handbooks on the USSR and Precipitation maps were utilized, in addition to maps on runoff. Height of the locality and roughness of underlying surface turn out to be essential influences upon the increase in the amount of precipitation falling upon elevations (hills). Thus, on the elevations of the European USSR including the Urals the amount of precipitation under the influence of these factors is increased by 16-18% per 100 meters of height (namely of the half sum of the quantity of precipitation on the flatland toward the east and toward the west of the elevation), and by 20% during the cold part of the year. The effect of elevation is stronger in the east than in the west. (RZhGeol, No 10, 1955)

SO: Sum No 884, 9 Apr 1956

26892
S/138/61/000/004/003/006
A051/A129

Conditions for the ...

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedev i Voronezhskiy zavod SK (All-Union Scientific Research Institute of Synthetic Rubber im. S.V. Lebedev and the Voronezh Synthetic Rubber Plant).

Card 6/6

Conditions for the ...

optimum concentration of the latex, %, F- quantity of the serum carried off with the rubber, kg/t, C_1-salt concentration in the coagulated solution, %, C_2 - salt concentration in the serum, %. The following salt consumptions were established for industrial types of synthetic rubbers, applicable to the ribbon-forming machines: a) for the SKS-30ARK or SKS-30ARKM at a phase ratio of 1:2 in the polymerization formulation 200-250 kg/t; at a phase ratio of 1:2.5 up to 350 kg/t of rubber; b) for SKS-30K at a phase ratio of 1:1.5 150 kg/t of rubber, at a phase ratio of 1:1.8 200 kg/t; c) for SKS-30AR or SKS-30ARM at a strengthening of the serum with a solid salt 500-600 kg/t, in the case of strengthening the serum with a solution of salt up to 100 kg/t. It is concluded that conditions for coagulation of latex with sodium chloride and serum recycle have been developed which reduce considerably the salt consumption. Methods have been found for lowering the salt consumption for coagulation by obtaining more concentrated latexes. The described results were applied at the Voronezh Synthetic Rubber Plant. There are 4 graphs, 3 tables and 2 Soviet-bloc references.

Card 5/6

Conditions for the ...

the rubber in the flocculate which is associated with the rate of the salting-out and affects the redistribution of the soap between the newly formed particles. It was proven that the amount of the serum carried away with the rubber varies within the limits of 76-80% of the total weight of the ribbon, i.e., equals about 4 times the quantity of the rubber. With a decrease in the concentration of the latex, the concentration of the salt in the serum increases and thus its consumption also increases. The obtained experimental material is summarized in the following equations:

$$Q = \frac{100_2 \cdot C_1 (10^2 - C_3)}{(C_1 - C_2)\, C_1} \quad (4),$$

where Q is the salt consumption, kg/t of rubber, C_2 - serum concentration, %, C_1 - concentration of rubber in the latex %. The equation shows that the salt consumption as in the case of the coagulation of the latex containing Nekal depends on the concentration of the serum and the latex. The optimum concentration of the latex ensuring the necessary quantity of the serum is expressed through the relationship:

$$C_{latex} = \frac{10^2 (100 - F)}{10^2 - F \cdot \frac{C_2}{C_1}} \quad (5),$$

where C_{latex} is the

Conditions for the ...

determined from the equation

$$q = \frac{C_o(G_2-G_1)}{C_o-C_2} - F \quad (2)$$

where C_o is the concentration of the strengthening solution in weight parts (in the case of the use of a solid salt, $C_o = 1$), G_2 - quantity of the reciprocal serum, kg/t, G_1 - the quantity of the coagulated solution, kg/t. Solving (1) and (2), then the general equation for the determination of the salt consumption for latex coagulation with recycle serum is

$$Q = \frac{C_o \cdot C_2(G_2-G_1)}{C_o - C_2} \quad (3).$$

First experiments on the coagulation of latexes obtained with soaps of modified colophony and synthetic fatty acids showed that even a small admixture of calcium chloride and to a lesser extent magnesium chloride in the sodium chloride causes a lumpy coagulum. When the granular coagulum is formed two factors are significant: the distribution of the salt and acid and the rate of adsorption of the soap by the particles of

Conditions for the ...

replacement of the Nekal emulsifier with soaps of modified colophony (dresinates) and fatty acids with coagulation of the latex using also sodium chloride. The latter substitution alleviates the purification of sewage waters. The results are given of the investigations into the coagulation of butadiene-styrene latexes obtained in the presence of Nekal CKC-30AP (SKS-30AR) and CKC 30APM (SKS-30ARM) or soaps of modified colophony and synthetic fatty acids CKC-30APK (SKS-30ARK) and CKC-30K (SKS-30K) with aqueous solutions of sodium chloride using recycle serum. The obtained data show that the two comparable latexes differ by their rubber content and the magnitude of the surface tension. It has been experimentally established that for a complete coagulation of the SKS-30AR and SKS-30RM latex forming a granular coagulum in the shape of a ribbon a minimum concentration of the sodium chloride in the coagulating solution within the range of 11-12% is required. Analyzing the balance of the serum during the coagulation process, the following equation of salt consumption in the coagulation of the latexes is derived: $Q = C_2(q + F)$ (1), where Q is the salt consumption, kg/t of rubber, C_2 - concentration of the serum in weight parts, q - the consumption of serum, kg/t, F - quantity of serum carried off with the rubber, kg/t. The removal of the serum is

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AUTHORS: Rabinerzon, M.A., Kalaus, A.Ye., Beresnev, V.N. Drozdov, V.A.

TITLE: Conditions for the coagulation of latexes containing Nekal and soap of carboxylic acids using sodium chloride with a serum recycle

PERIODICAL: Kauchuk i rezina, no. 4, 1961, 16-22

TEXT: The Soviet chemical industry is presently manufacturing emulsion butadiene-styrene rubbers using Nekal (sodium salt of dibutyl-naphthalenesulfoacid) as the emulsifier and calcium chloride for the formation of rubber from latex. It has been shown that the presence of calcium ions in the rubber in the form of the salt of dibutylnaphthalene-sulfoacid or in the form of mineral salts, have a negative effect on the properties of the vulcanizates and especially on the adhesion between the rubber and the cord and its double layer. Two methods are mentioned for improving the quality of butadiene-styrene rubber today. The first method involves the replacement of the calcium chloride by sodium chloride for the coagulation of the latex. The second method is based on the

Card 1/6

KALAUS, A.Ye.; RABINERZON, M.A.; FAYNSHTEYN, M.S.; BERESNEV, V.N.

Production of oil rubber without thermal plasticizing. Biul. tekh.-ekon.inform. no.5:23-26 '59. (MIRA 12:8)
(Rubber, Synthetic)

SOV/138-58-7-1/19

Some Technical Properties of Chloroprene Latexes Depending on the Size of Particles and the Saturation of the Adsorption Coatings

with increasing soap content in the polymers; at equal soap content they do not (within the limits of experimental error) depend on the sizes of the particles in the latex. The raw gel, as well as the vulcanised layers from latexes, stabilised with sodium resinate, have better physico-mechanical properties than the corresponding gels and coatings stabilised with sodium oleate. This is due to the different solubilities of calcium salts of rosin and oleic acids in chloroprene. There are 3 figures, 3 tables and 15 references, 5 of which are Soviet, 7 English and 3 German.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva (All-Union Research Institute for Synthetic Rubber im. S.V. Lebedev)

Card4/4

1. Chloroprenes--Polymerization 2. Chloroprenes--Physical properties 3. Chloroprenes--Mechanical properties 4. Chloroprenes --Test results 5. Synthetic rubber--Preparation

medium (Table 3). From simple calculations, it can be established that within the limits of investigated sizes of particles and of degree of saturation, the rate of syneresis and its extent are approximately proportional to the specific exposed surface of the polymer particles; the proportional coefficient is considerably higher for latexes stabilised with rosin soaps. When infra-red irradiation is applied the rate of drying of latex coatings is higher if large-particle latexes are used. However, the rate of separation of moisture decreases with increasing degree of saturation of the adsorption layers with emulsifiers. The amount of deposits and the reduction coefficient increase slightly during drying when the sizes of the particles and the degree of saturation of the adsorption layers increase. The specific elongation of gels from large-particle latexes is in all cases lower than the corresponding values for highly dispersed latexes. It decreases with increasing degree of saturation of the adsorption layers with the polymer globules. The physico-mechanical values of vulcanised layers decrease

adsorption titration of the latexes with solutions of sodium oleate and resin soap (Refs 9 and 10). The physico-mechanical properties of the raw gel were defined with a Kublanov dynamometer (Ref 12) and the physico-mechanical properties of dry vulcanised coatings with a Shopper dynamometer according to the VNIISK methods (Ref 11). Heat ageing of the latexes was effected in an air thermostat for 36 hours at 70 °C. An analysis of data given in Table 2 and Figures 1-3 shows that the rate of ionic deposition in the initial period (within the limits of experimental error) is equal for all tested samples; in the following period it is higher for latexes with large particles. The weight ratio of the raw and dry gel for all samples and in all stages of ionic deposition remains approximately constant (about 2.2). The average rate of ionic deposition increases with increasing degree of saturation of the globules with emulsifiers. If the latex contains very small particles and the globules are less saturated with emulsifiers, syneresis of the gel proceeds more quickly and more completely in the aqueous

BERESNEV, V.N.

SOV/138-58-7-1/19

AUTHORS: Lebedev, A.V., Fermor, N.A., Selivanovskiy, S.A., and Beresnev, V.N.

TITLE: Some Technical Properties of Chloroprene Latexes Depending on the Size of Particles and the Saturation of the Adsorption Coatings (Nekotoryye tekhnologicheskiye svoystva khloroprenovykh lateksov v zavisimosti ot velichiny chastits i nasyshchennosti adsorbtsionnykh obolochek)

PERIODICAL: Kauchuk i rezina, 1958, Nr 7, pp 1 - 5 (USSR)

ABSTRACT: The rate of ionic deposition, the rate of syneresis in water, the rate of drying and setting of coatings and physico-mechanical properties of the gel of chloroprene latexes having particles of various sizes, were investigated. To some latex samples soap was added in order to compare the properties of latexes: a) at an equal degree of saturation of the globules of the coating and b) at an identical weight ratio of the emulsifier to the polymer. Polymerisation was carried out in a 50-litre apparatus at 25 - 30 °C (Table 1). Initiators and emulsifiers usually used during the synthesis of chloroprene latexes were used (Refs 14 and 15). The size of the particles and the degree of saturation was determined by

Cardl/4

BERESNEV, V.I.; VERESHCHAGIN, L.F.; RYABININ, Yu.N.

Mechanical properties of aluminum subjected to preliminary plastic deformations at high hydrostatic pressures [with summary in English]. Inzh.-fiz. zhur. no. 9:119-122 S '58. (MIRA 11:10)

1. Laboratoriya fiziki sverkhvysokikh davleniy AN SSSR, g. Moskva i Institut fiziki metallov AN SSSR, g. Sverdlovsk.
(Aluminum--Testing)

AMIROVA, S.A.; PETROVSKIY, V.V.; BERESNEVA, T.I.

Kinetics of the reduction of iron-vanadium spinel by hydrogen.
Zhur.prikl.khim. 38 no.6:1247-1252 Je '65.
(MIRA 18:10)

1. Permskiy politekhnicheskiy institut.

KORNIYENKO, A.M.; SHTEL'MAKHOV, M.S.; GEYLER, Z.Sh.; BERESNEV, V.A.; KOTLIK, S.B.; GORFINSKIY, Kh.M.; ZEL'DIN, Yu.R.; KURGIN, Yu.M.; BELYAYEV, V.G.; ZAK, P.S.; ZAYTSEV, A.A.; LI, A.M.; SKVORTSOV, L.N.; LUTTS, R.R.; KHVINGIYA, M.V.; NINOSHVILI, B.I.; SEMENCHENKO, D.I.; SUKHANOV, V.B.

Soviet inventions in mechanical engineering. Vest.mashinostr. 45 no.11:87-88 N '65. (MIRA 18:12)

YUSHCHENKO, N.R., doktor tekhn. nauk, prof. (Dnepropetrovsk); BADYUL, B.K., kand. tekhn. nauk, dotsent (Dnepropetrovsk); YEGORSHINA, Ye.G., kand. tekhn. nauk, dotsent (Dnepropetrovsk); STEPANOV, V.V., kand. tekhn. nauk, dotsent (Dnepropetrovsk); PAPAKHOV, Yu.V., assistent (Dnepropetrovsk); BERESNEV, S.Ye., inzh. (Minsk)

Merits and shortcomings of the textbook on the mechanization of loading and unloading operations. Zhel dor. transp. 45 no.7: 92-94 Jl '63. (MIRA 16:9)

1. Nachal'nik otdela gruzovoy sluzhby upravleniya Belorusskoy dorogi (for Beresnev).

BERESNEV, S.Ye., inzh.

Use new methods in organizing the work of train dispatchers. Zhel.dor. transp. 44 no.12:77 D '62. (MIRA 15:12)

1. Nachal'nik otdela Upravleniya Belorusskoy dorogi, Minsk.
(White Russia--Railroads--Train dispatching)

BERESNEV, S.Ye., inzh.

Results of divisional operation without locomotive dispatchers. Zhel.dor.transp. 41 no.6:64-66 Je '59. (MIRA 12:9)

1. Zamestitel nachal'nika otdela dvizheniya, gruzovoy i passazhirskoy raboty otdeleniya dorogi, g.Vitebsk.
(Railroads--Management) (Railroads--Train dispatching)

BERESNEV, S.Ye., insh.(Vitebsk)

"Manual for stationmasters" by I.D.Antoniuk, V.G.Orlov, A.V. Samsonov. Reviewed by S.E. Beresnev. Zhel. dor. transp. 40 no. 7:95-96 Jl '58. (MIRA 11:7)

(Railroads--Station service)
(Antoniuk, I.D.) (Orlov, V.G.)
(Samsonov, A.V.)

From the School Lesson to the Vuz Course. From the Experience in Teaching Foreign Languages

nate with practical exercises. Practical exercises are given in 4 semesters, the material used for them being general and specialized texts. In the 3rd and 4th semesters, when the students are able to read fluently and know the grammar, principal attention is paid to vocabulary and phraseology. The author recommends that the study of foreign languages (English, German, French) be divided into 2 subjects: colloquial-newspaper style, and literary. The second subject is to familiarize the student with the scientific style of the language and make him read foreign literature on the particular speciality.

ASSOCIATION: Sverdlovskiy meditsinskiy institut (Sverdlovsk Medical Institute)

SOV-3-58-9-12/36

AUTHOR: Beresnev, S.D., Docent, Sverdlovsk Medical Institute

TITLE: From the School Lesson to the Vuz Course (Ot shkol'nogo uroka k vuzovskomu kursu). From the Experience in Teaching Foreign Languages (Iz opyta prepodavaniya inostrannykh yazykov)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 9, pp 51-52 (USSR)

ABSTRACT: The basic aim in studying a foreign language at a non-linguistic vuz is to be capable of reading and understanding the literature of the respective specialty, and to acquire some skill in elementary conversation. The author presents some suggestions for teaching a foreign language which are based on the experience of the Chair for Foreign Languages of the Sverdlovskiy meditsinskiy institut (Sverlovsk Medical Institute). During the first year the student is familiarized with the theory of the language and is taught to use it. Both lectures and practical exercises are used. For the former, 16-18 hours per year are assigned (in the 1st course), the rest of the time being devoted to practical training. The lectures are on phonetics, morphology, syntax and lexicology with elements of the science of style which serve as a basis for acquiring skill in the language. Lectures alter-

Card 1/2

BERESNEV, R.S., inzh.

Shop for the production of fiberboard with Soviet equipment.
Der. prom. 14 no.6:20-23 Je '65. (MIRA 18:7)

1. Novo-Vyatskiy ordena Trudovogo Krasnogo Znameni domostroitel'nyy kombinat.

BERESNEV, N.F.; ROVNIN, L.I.

Megion oil field and the prospects for finding oil and gas in the Lower Vartovskiy arch. Geol. nefti i gaza 8 no. 1: 6-12 Ja '64. (MIRA 17:5)

BERESNEV, L.L.

Hamartoma of the lungs [with summary in English]. Vest.khir. 82 no.1:122-124 Ja '59. (MIRA 12:2)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey (nach. - prof. P.A. Kupriyanov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
Adres avtora: Leningrad, K-9, pr. Karla Marksa, d.7/8, khirurgicheskaya klinika usovershenstvovaniya vrachey.

(LUNG NEOPLASMS, case reports
hamartoma (Rus))
(HAMARTOMA, case reports
lungs (Rus))

L 24328-66
ACC NR: AP6010425

made on commercial iron (0.025% C, 0.005% N) containing 0.33% Ti to bind the carbon and nitrogen into carbides and nitrides of titanium. The internal friction was measured at a frequency of approximately 1 cps. The amplitude dependent internal friction was measured at strains from 2×10^{-5} to 20×10^{-5} in a longitudinal constant magnetic field (325 Oe). Increasing the interstitial impurities from 10^{-7} to 10^{-3}% greatly increases the resitance to deformation. The authors describe the effects produced by interstitial impurities, by the changes in density of the free dislocations participating in the deformation, and by the motion of the free dislocation. It is concluded from the results that the temperature dependence of the elastic limit of iron is essentially the consequence of an increase in the resistance of the crystal lattice to the motion of the free dislocations with decreasing temperature. The influence of the impurities and of the density of the free dislocations comes into play to the extent that they change the dislocation velocity, and the density of the moving dislocations or the multiplication of dislocations. This report was presented by Academician G. V. Kurdyumov. Orig. art. has: 4 figures and 2 formulas.

SUB CODE: 20,11/ SUBM DATE: 24May65/ ORIG REF: 004/ OTH REF: 005

Card 2/2

L 24328-66 EWT(m)/T/EWP(t) IJP(c) JD
ACC NR: AP6010425 SOURCE CODE: UR/0020/66/167/002/0322/0325

AUTHORS: Beresnev, G. A.; Sarrak, V. I.; Entin, R. I.

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

TITLE: Temperature dependence of the resistance of iron to deformation and the dislocation mobility

SOURCE: AN SSSR. Doklady, v. 167, no. 2, 1966, 322-325

TOPIC TAGS: iron, temperature dependence, crystal dislocation, crystal deformation, elastic stress, internal friction, crystal impurity, crystal lattice

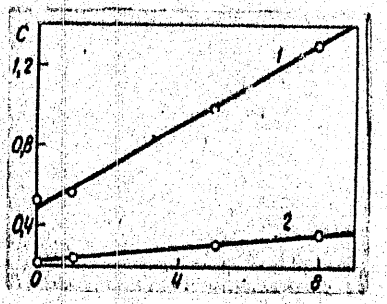
ABSTRACT: To check on the causes of the strong temperature dependence of the elastic limit of metals with body-centered-cubic lattice, the authors have investigated the influence exerted on this elastic limit, taken as a function of the temperature, by the resistance of the crystal lattice itself to the motion of dislocations. The tests were

Card 1/2 UDC: 539.377

L 1626-66

ACCESSION NR: AP5021948

ENCLOSURE: 02



Deformation, %

Fig. 2. Effect of degree of plastic deformation on the amplitude dependence of internal friction of iron (H = 325 oe):

1 - T = 20°C; 2 - T = -160°C

Card 4/4

L 1626-66
ACCESSION NR: AP5021948

ENCLOSURE: 01

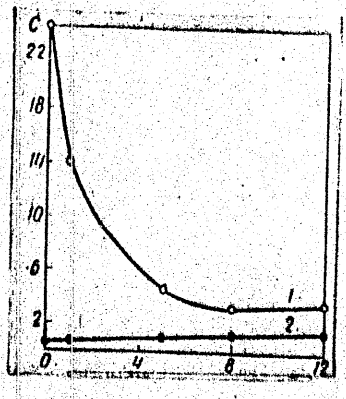


Fig. 1. Effect of degree of plastic deformation on amplitude dependence of internal friction of iron (T = 20°C):

1 - H = 0; 2 - H = 325 oe

Card 3/4

L 1626-66
ACCESSION NR: AP5021948

2

cles to the movement of domain walls. Curve 2 in Fig. 1 (H = 325 oersteds) characterizes only dislocation scattering. As can be seen, this increases with increasing degree of plastic deformation. Thus, as the degree of plastic information increases the proportions between the contributions of dislocation scattering and magnetoelastic scattering to the amplitude-dependent internal friction of the iron become reversed. As the temperature drops to -160°C, dislocation scattering decreases (Fig. 2); this is attributed to the increase in the resistance to the movement of dislocations with decreasing temperature. As can be seen from Fig. 2, the temperature dependence of dislocation scattering increases with increasing number of mobile dislocations as a result of the deformation. A possible explanation may be that, during the measurement of amplitude-dependent internal friction, the dislocations performing oscillatory motion with an amplitude of the order of 10^{-5}-10^{-4}, encounter the temperature-dependent resistance of the crystal lattice. Orig. art. has: 4 figures.

ASSOCIATION: Institut metallofiziki (Institute of Metal Physics); TsNIIChermet im. I. P. Bardina

SUBMITTED: 08Jun64 ENCL: 02 SUB CODE: MM, ME

NO REF SOV: 003 OTHER: 004

Card 2/4

L 1626-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD
ACCESSION NR: AP5021948 UR/0126/65/020/002/0317/0319
546.72:539.67:539.374

AUTHOR: Beresnev, G. A.; Sarrak, V. I.

TITLE: Effect of plastic deformation on the amplitude dependence of the internal friction of iron

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 2, 1965, 317-319

TOPIC TAGS: internal friction, material deformation, amplitude, iron, crystal lattice

ABSTRACT: The effect of plastic deformation on the change in the (deformation-) amplitude-dependent internal friction Δ_H at temperatures of from 20 to -160°C in constant longitudinal magnetic fields of different intensity was investigated for commercial iron containing 0.025% C, 0.20% Si, 0.12% Mn, 0.01% S, 0.004% P, and 0.02% Al. Internal friction was measured by recording the damping of the natural torsional vibrations of 0.8 mm diameter wire specimens at a frequency of ≈0.8 cps. It was found that magnetoelastic scattering markedly decreases as a result of plastic deformation (curve 1, Fig. 1). This is because the deformation involves a considerable increase in the number of dislocations, whose stress fields are obsta-

Card 1/4

BERESNEV, G.A. (Moskva); SARNAK, V.I. (Moskva); [illegible]

Effect of temperature and interstitial impurities on energy scattering during small shifting of dislocations in iron.
Izv. AN SSSR. Met. no.6:111-119 N-D '65. (MIRA 19:1)

1. Submitted February 12, 1965.

L 09507-67
ACC NR: AT6023743

3

gives detailed drawings of the extrusion die and the container. It then passes on to a theoretical consideration of design calculations for high pressure vessels. Calculated results show that steels EI643, 45KhNMFA, and 15Kh2GN2TRA are suitable materials for fabrication of high pressure vessels, while with a vessel wall thickness greater than 100-120 mm, steels 33KhNZMA and 30KhGSNA are preferred. For work at temperatures from 300-500°C, steels 3Kh2V8, 40KhNMA, 23Kh2NVFA, and others can be used. "The work was done by coworkers of the Institute of Earth Physics AN SSSR (Institut fiziki Zemli AN SSSR), Moscow Engineering Physics Institute (Moskovskiy inghenergo-fizicheskogo institut), and Institute of Metal Physics AN SSSR (Institut fiziki metallov AN SSSR)." Orig. art. has: 10 formulas, 5 figures and 2 tables.

SUB CODE: 11,20/ SUBM DATE: none/ ORIG REF: 009/ OTH REF: 002

Card 3/3 LC

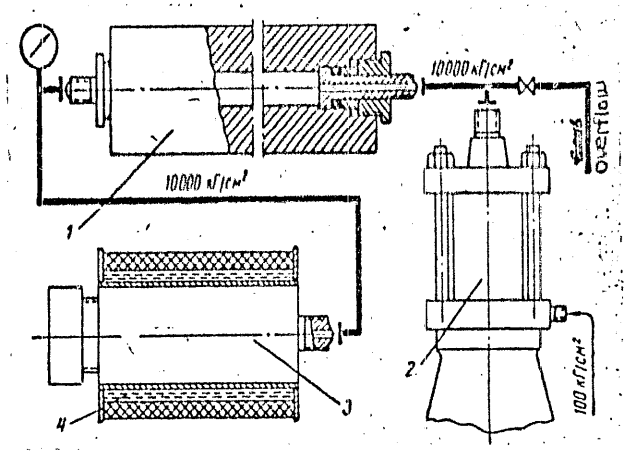


Fig. 2. Schgme of extrusion unit for pressure up to 12,000 kg/cm^2. 1--reservoir; 2--hydrocompressor; 3--container; 4--electric furnace

The unit consists basically of a container connected between a reservoir and a hydrocompressor, and a liquid-gas accumulator (not shown in Fig. 2). The article also

L 00507-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) FDN/JD/IW

ACC NR: AT6023743 (A,N) SOURCE CODE: UR/2755/66/000/005/0173/0188

AUTHOR: Martynov, Ye. D.; Boresnov, B. I.; Bulychev, D. K.; Yevstyukhin, A. I.; Rodionov, K. P.; Ryabinin, Yu. N. 37 34 84

ORG: none

TITLE: Apparatus for the extrusion of metals using a high pressure fluid 15

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov, no. 5, 1966, 173-188

TOPIC TAGS: metal extrusion, high pressure extrusion, hydraulic fluid

ABSTRACT: The article gives design details of an extrusion apparatus of the the type shown in Fig. 2.

Card 1/3

L 3400-66

ACCESSION NR: AP5024209 ENCLOSURE: 01

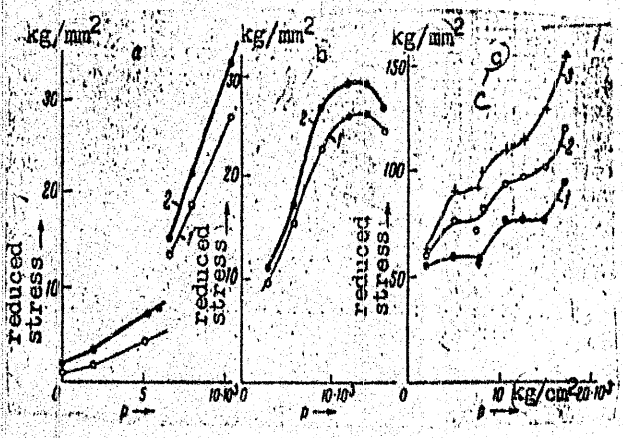


Fig. 1. Dependence of reduced stress on pressure for constant residual deformation (δ = const.). a- RbCl: 1 - δ = 3%; 2 - δ = 10%; b- $AgNO_3$: 1 - δ = 2%; 2 - δ = 10%; c- limestone: 1 - δ = 2%; 2 - δ = 5%; 3 - δ = 10%

L 3400-66

ACCESSION NR: AP5024209

increases also, but more slowly, and that of $AgNO_3$ shows a decrease with increase of pressure. Orig. art. has: 3 graphs and 1 photograph.

ASSOCIATION: Institut fiziki Zemli im. O. Yu. Shmidta, Akademii nauk SSSR (Institute of Geophysics, Academy of Sciences, SSSR)

SUBMITTED: 01Feb65 ENCL: 01 SUB CODE: SS

NO REF SOV: 003 OTHER: 001

Card 2/3

L 3400-66 EPA(s)-2/EWT(m)/EWP(w)/EPF(c)/EPF(n)-2/T/EWP(t)/EWP(b)
IJP(c) JD/JG

ACCESSION NR: AP5024209 UR/0020/65/164/003/0541/0544

AUTHORS: Livshits, L. D.; Beresnev, B. I.; Genshaft, Yu. S.; Ryabinin, Yu. N.

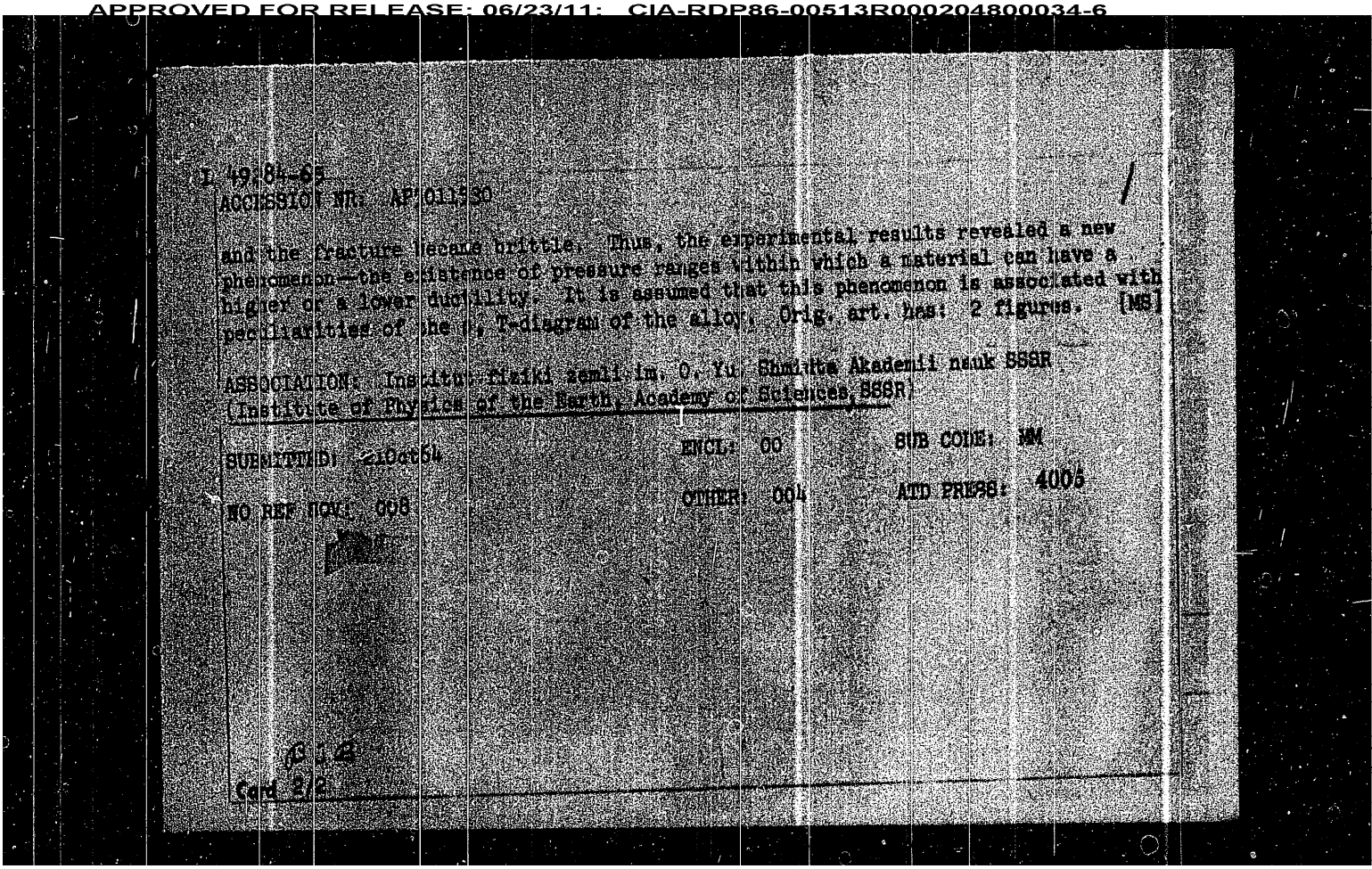
TITLE: Change in strength of several substances in the region of polymorphic transitions under pressure

SOURCE: AN SSSR. Doklady, v. 164, no. 3, 1965, 541-544

TOPIC TAGS: polymorphic transition, rubidium chloride, silver nitrate, limestone, calcium carbonate

ABSTRACT: The effect of pressure on RbCl, $AgNO_3$, and limestone was studied. The investigation is an extension of previous work on Bi-Sn alloys published by the authors (DAN, 161, 5, 1965). Axial compression of specimens was determined at high hydrostatic pressures. The specimens were of cylindrical shape, 8-10 mm in diameter, and had a length-to-diameter ratio of 1 to 1.5. Photographs of the deformed samples are presented and stress-strain curves are shown graphically (see Fig. 1 on the Enclosure). It is concluded that pressure affects the strength of different materials differently during polymorphic transitions. Thus the resistance to compression of RbCl increases with pressure, that of limestone

Card 1/3



L 49284-65
ACCESSION NR: AP5011530

and the fracture became brittle. Thus, the experimental results revealed a new phenomenon—the existence of pressure ranges within which a material can have a higher or a lower ductility. It is assumed that this phenomenon is associated with peculiarities of the P, T-diagram of the alloy. Orig. art. has: 2 figures. [MS]

ASSOCIATION: Institut fiziki zemli im. O. Yu. Shmidta Akademii nauk SSSR (Institute of Physics of the Earth, Academy of Sciences, SSSR)

SUBMITTED: 21Oct64 ENCL: 00 SUB CODE: MM

NO REF SOV: 008 OTHER: 004 ATD PRESS: 4005

Card 2/2

L 40284-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(b)/EWA(d)/EWP(v)/EWP(t) Pf-4 IJP(c)
ACCESSION NR: AP5011530 JD/HW UR/0020/65/161/005/1077/1080

AUTHOR: Livshits, L. D.; Bereznev, B. I.; Ryabinin, Yu. N.

TITLE: Ductility of the 50 at% Bi-50 at% Sn alloy in tension under a high pressure

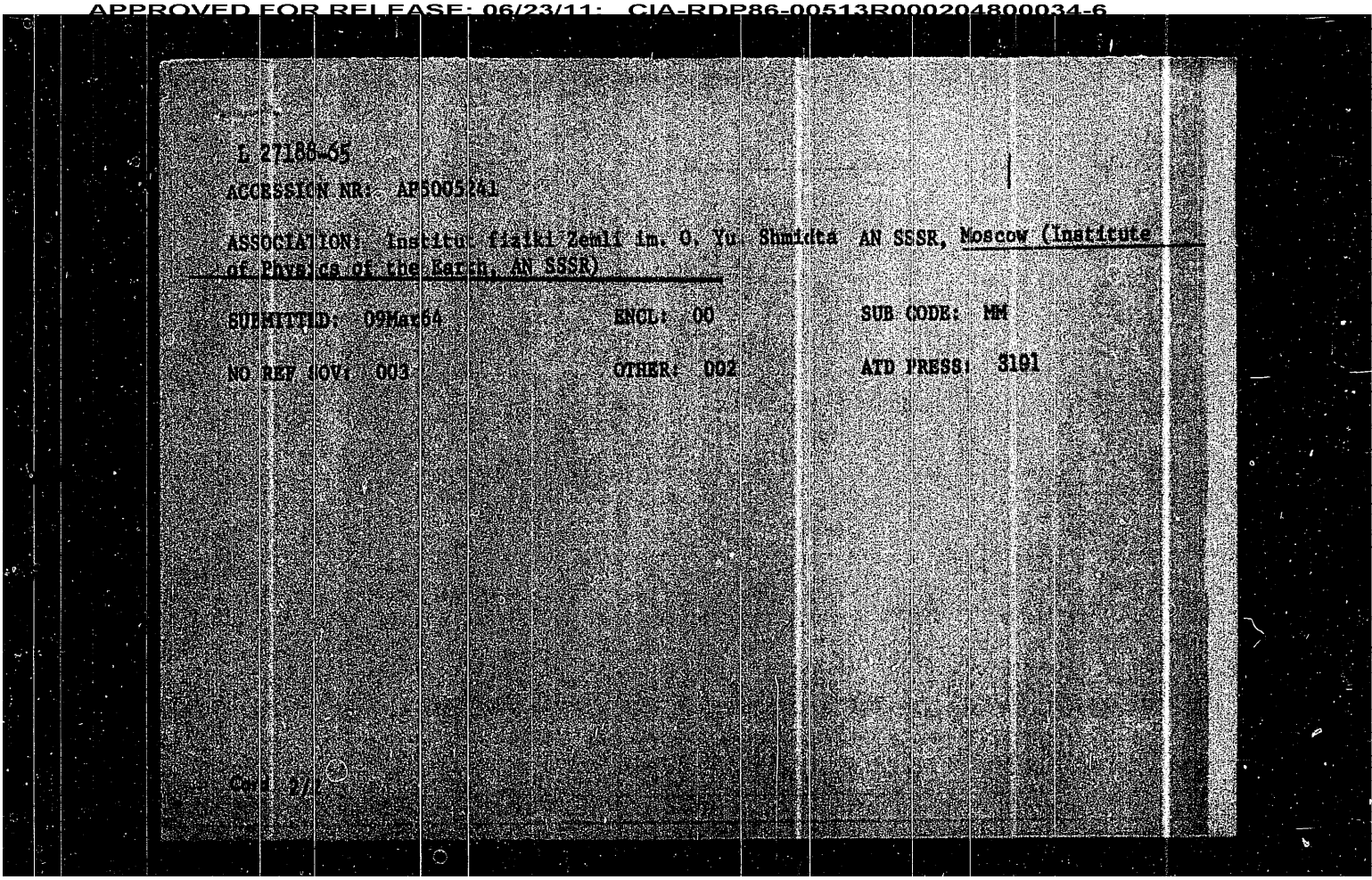
SOURCE: AN SSSR. Doklady, v. 161, no. 5, 1965, 1077-1080

TOPIC TAGS: bismuth alloy, tin containing alloy, alloy ductility, pressure ductility relationship, brittleness/ductility transition

ABSTRACT: Binary Bi-Sn alloy containing 50 at% Bi was air cooled or water quenched, naturally aged, and then subjected to tension tests at room temperature at pressures up to 21,600 kg/cm². At 300—350 kg/cm² the alloy fracture was brittle. With a further increase in pressure the fracture became more and more ductile. In the 1400—1500 kg/cm² range the alloy ductility sharply increased, the elongation reached 6.5%, and the reduction of area was 99.9%. With a further increase in pressure the alloy ductility decreased, passed through a minimum at a pressure of 6500 kg/cm², increased again to the second maximum at a pressure of 10,000—11,000 kg, and dropped practically to zero in the 11,000—11,500 kg/cm² range. With an increase in pressure from 12,000 to 18,000—20,000 kg/cm², the elongation again increased and the fracture became ductile, while above 20,000 kg/cm² the ductility dropped again

BERESNEV, B.I., kand. tekhn. nauk

Research in the field of hydrostatic extrusion of metals; meetings with British specialists. Vest. AN SSSR 35 no.9: 79-81 '65. (MIRA 18:9)



L 27188-65

ACCESSION NR: AP5005241

ASSOCIATION: Institut fiziki Zemli im. O. Yu. Shmidta AN SSSR, Moscow (Institute of Physics of the Earth, AN SSSR)

SUBMITTED: 09Mar64 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 002 ATD PRESS: 3101

Card 2/2

L 27181-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b) PF-4 IJP(c) JD/HW/JG
ACCESSION NR: AP5005141 S/0057/65/035/002/0348/0354

AUTHOR: Livshits, L. D.; Ryabinin, Yu. N.; Berezner, B. I. 26 20 B

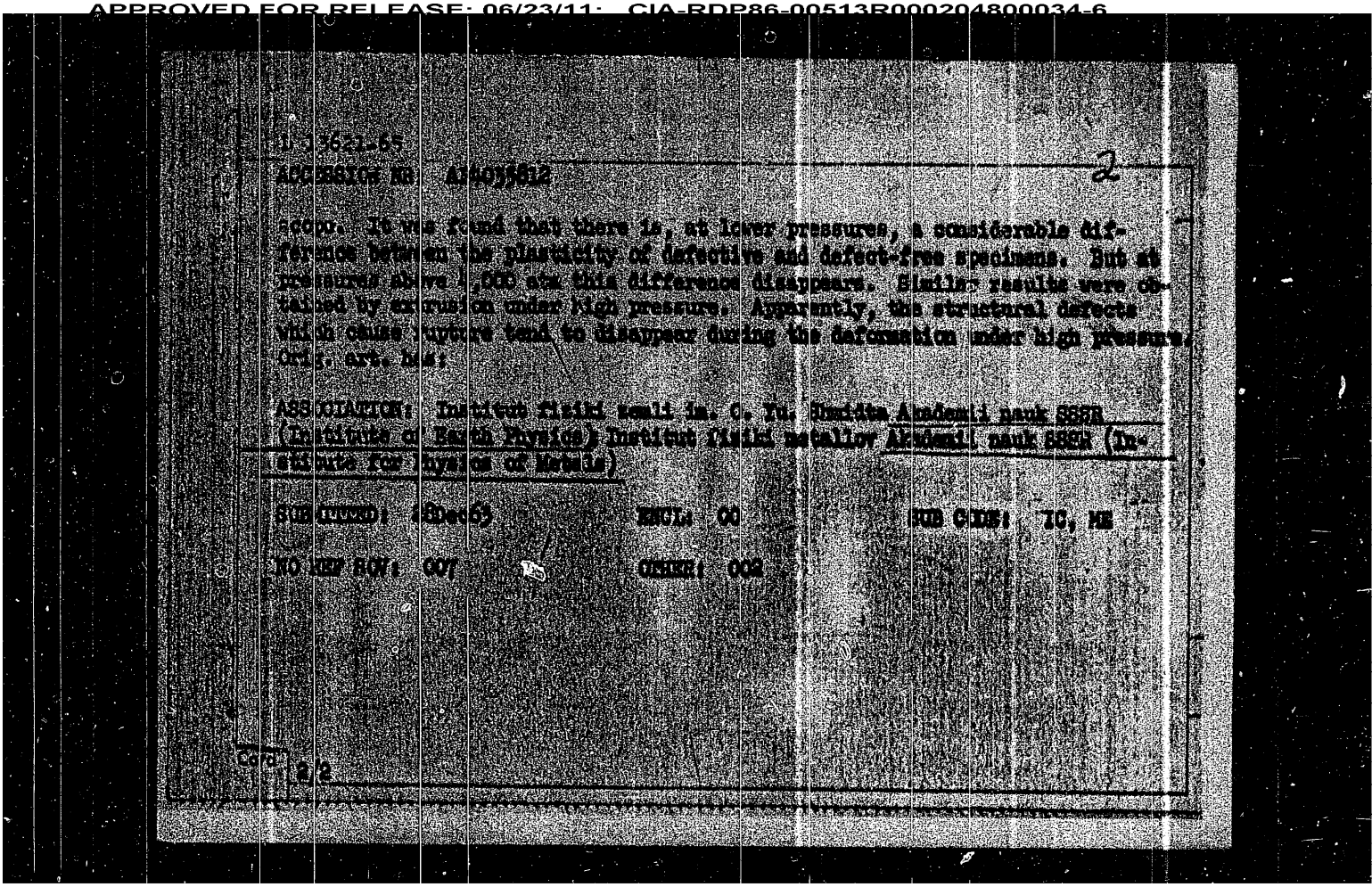
TITLE: Effect of pressure on the ductility of metals 14

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no.2, 1965, 348-354

TOPIC TAGS: chromium, chromium ductility, hydrostatic pressure, ductility pressure dependence

ABSTRACT: To determine the effect of high hydrostatic pressure on the ductility of metals, specimens of pure forged chromium were subjected to tensile tests at ambient hydrostatic pressures of up to 18,000 kg/mm^2. The curves of the ultimate deformation-pressure dependence showed that pressures of up to 4000—5000 kg/mm^2 have little or no effect on the ultimate elongation, but with a further increase in the pressure the elongation sharply increases. An analysis of the results showed that similar behavior is exhibited by a number of other brittle and low-ductility metals. The metal grain size appears to have no effect on the ε-p dependence. This indicates the major role of the condition of grains and the secondary importance of grain boundaries. To obtain a more exact evaluation of the effect of individual deformation-pressure factors, further investigation is required. Orig. art. has: 6 figures. [MS]

Card 1/2



L 3 3621-65

ACC NR: AP5013812

2

Scope. It was found that there is, at lower pressures, a considerable difference between the plasticity of defective and defect-free specimens. But at pressures above 4,000 atm this difference disappears. Similar results were obtained by extrusion under high pressure. Apparently, the structural defects which cause rupture tend to disappear during the deformation under high pressure. Orig. art. has:

ASSOCIATION: Institut fiziki zemli im. O. Yu. Shmidta Akademii nauk SSSR (Institute of Earth Physics) Institut fiziki metallov Akademii nauk SSSR (Institute for Physics of Metals)

SUB CODE: 20Dec65 ENCL: 00 SUB CODE: 7C, MM

NO REF SOV: 007 OTHER: 002

Card 2/2

L [illegible] EWT(m)/EWA(d)/EWP(t)/EWP(e)/EWP(b) Pf-4 IJP(c)/AFETR/ AFWL/SD(ep)-2/ESD(gs)/ESD(t) JD/HW

ACCESSION NR: AP4035812 S/0020/64/156/001/0067/0068

AUTHOR: Bulychev, D. K.; Beresnev, B. I.; Gaydukov, M. G.; Martynov, Ye. D.; Rodionov, K. P.; Ryabinin, Yu. N.

TITLE: Structural defects and plastic deformation of copper at high pressures

SOURCE: AN SSSR. Doklady, v. 156, no. 1, 1964, 67-68, and top half of insert facing p. 68

TOPIC TAGS: metal plasticity, structural defect, copper, high pressure metallurgy, self healing, dislocation, vacancy, solid state physics

ABSTRACT: The present paper describes experiments designed for the elucidation of the influence of defects in solids on the increase of plasticity under pressure. The experimental technique is essentially the same as described by I. N. Greenwood and D. B. Miller (Acta Metallurgica, 2, no. 2, 1954, 250. The true deformation $e = \ln(f_0/f)$ where f_0 is the initial cross section of the specimen of copper M2, f - that at rupture, was measured. In addition, the microstructures of samples ruptured under pressure were observed with an optical micro-

Card 1/2

ACCESSION NR: AP4010755

found in many metals and alloys. It is shown in the present work, that in some materials there is a relationship of a new type between E and p. At lower pressures, there is almost no effect of p on E. The rate of axial deformation has no effect on the dependence of the elastic limit on pressure. Orig. art. has: 2 figures.

ASSOCIATION: Institut fiziki Zemli im O. Yu. Shmidta Akademii Nauk SSSR (Institute for the Earth Physics).

SUBMITTED: 05Apr63 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: PH, ML NO REF SOV: 003 OTHER: 001

Card 2/2

ACCESSION NR: AP4010755 S/0020/64/154/001/0086/0087

AUTHOR: Livshits, L. D.; Ryabinin, Yu. N.; Beresnev, B. I.; Marty*nov, Ye. D.

TITLE: A new relationship between the elastic limit and pressure

SOURCE: AN SSSR. Doklady*, v. 154, no. 1, 1964, 86-87

TOPIC TAGS: elastic limit, high pressure metallurgy, axial tension of materials, rate of deformation

ABSTRACT: The authors have investigated the elastic limits of various steels and of brass under high pressure. The ir method of investigation differs from that previously used by a very high rate of deformation. The elastic limit E (the natural logarithm of the ratio of areas of the specimen cross sections before and after rupture) was measured as a function of pressure p. In the previous work (mainly by Bridgman), a proportionality between E and p has been

Card 1/2

L 1129-65
ACCESSION NR: AP5043304

ENCLOSURE: 01

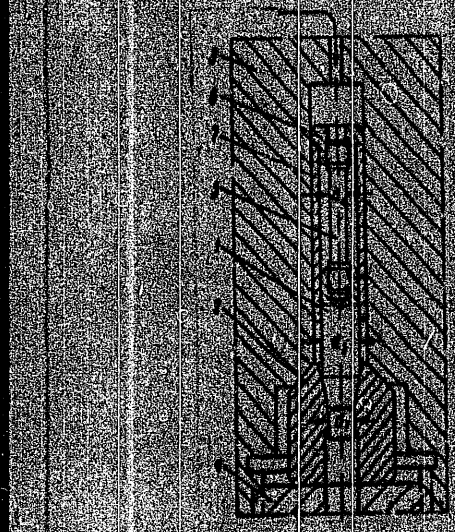
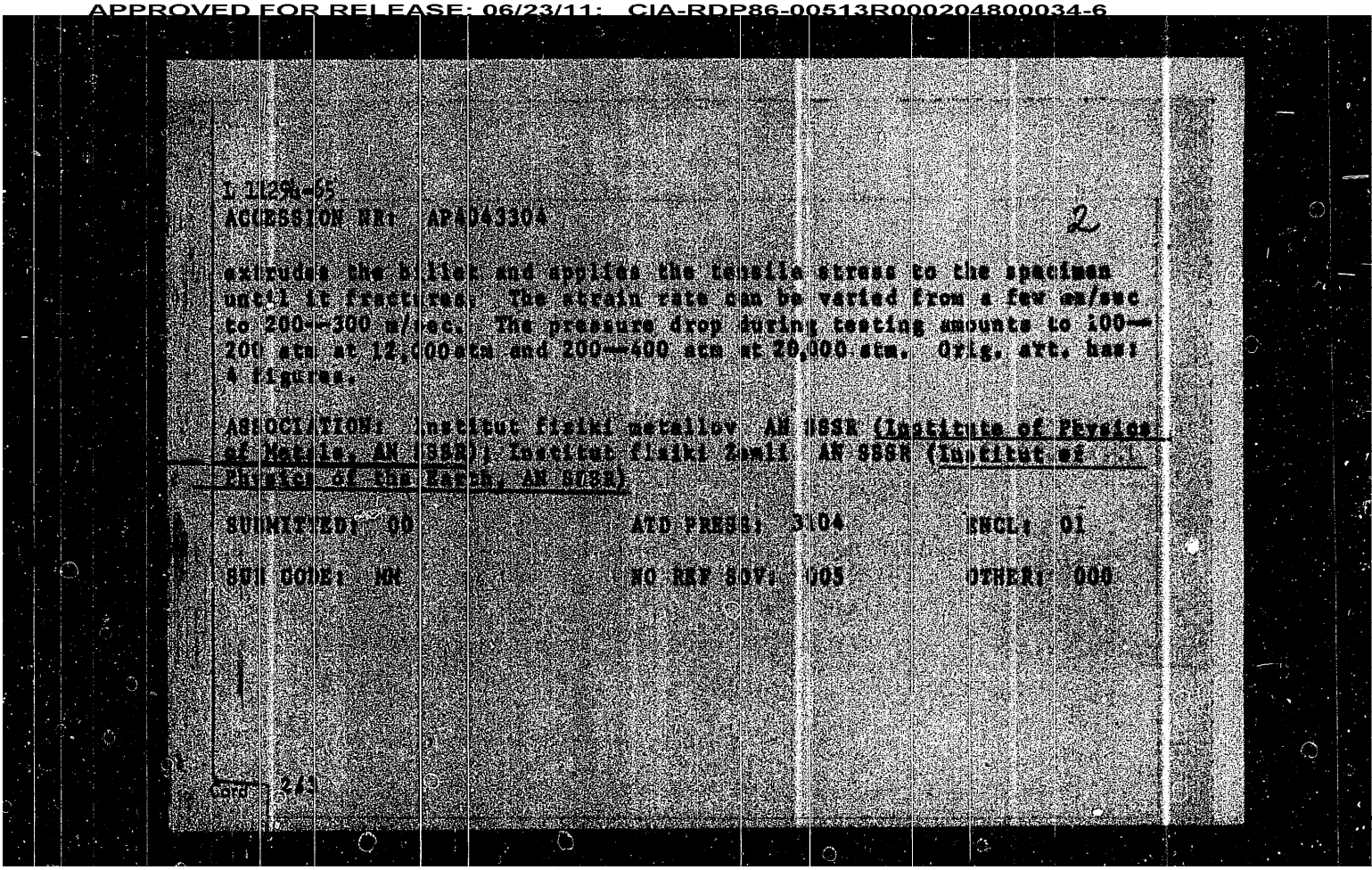


Fig 1. Diagram of device for ductility tests of metals under pressure (up to 20,000 atm at temperatures up to 400C)

Card 1/3



L 11294-65
ACCESSION NR: AP4043304

2

extrudes the billet and applies the tensile stress to the specimen until it fractures. The strain rate can be varied from a few cm/sec to 200--300 m/sec. The pressure drop during testing amounts to 100--200 atm at 12,000 atm and 200--400 atm at 20,000 atm. Orig. art. has: 4 figures.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, AN SSSR); Institut fiziki Zemli AN SSSR (Institut of Physics of the Earth, AN SSSR)

SUBMITTED: 00 ATD PRESS: 3104 ENCL: 01

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

Card 2/3

L [illegible]-65 EWT(m)/EWP(w)/EWA(d)/EWP(v)/EWP(k)/EWP(b) Pf-4 JD/HW

ACCESSION NR: AP40[illegible]3304 S/0032/64/030/008/1017/1019

AUTHOR: Beresnev, B. I.; Buly*chev, D. K.; Marty*nov, Ye. D.

TITLE: Equipment for study of metal ductility under high pressure

SOURCE: Zavodskaya laboratoriya, v. 30, no. 8, 1964, 1017-1019

TOPIC TAGS: metal hydrostatic extrusion, hydrostatic pressure extrusion, high pressure equipment

ABSTRACT: Three testing units have been developed to study the effect of high hydrostatic pressure on metal ductility. The first unit operates at room temperature and pressures up to 12,000 atm, the second with pressures up to 20,000 atm and temperatures up to 2100C, and the third with pressures up to 20,000 atm and temperatures up to 300C. The second unit was originally designed for hydrostatic metal extrusion (see Fig. 1 of the Enclosure). The tensile test is performed as follows. A metal billet 1 is placed in die 2 which is tightly pressed to pressure chamber 3 with screws 4. Tensile test specimen 5 is screwed with one end into extruded billet 1 and with the other into plug 6 resting on bushing 7. Hydrostatic pressure

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800034-6

practically equalled those of the sound copper, evidently due to the elimination of pores and cracks. In drawing, the strength of defective copper at a reduction of 75% decreased, probably because the metal began to fail. Examination of the microstructure showed the number of pores decreases with increasing reduction, regardless of the deformation method. However the pores completely disappeared after a 40% reduction by extrusion, but still remained after a 60—70% reduction by drawing. Orig. art. has: 5 figures.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of the Physics of Metals AN SSSR); Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth, AN SSSR)

SUBMITTED: 22Nov63 ENCL: 00 SUB CODE: MM

NO REF SOV: 006 OTHER: 004 ATD PRESS: 3155

L 28518-65 EWT(m)/EWA(d)/EWP(t)/ETI IJP(c) JD/HW
ACCESSION NR: AP5001248 S/0126/64/018/005/0778/0783

AUTHOR: Bayenov, B. I.; Bulychev, B. K.; Gaydukov, M. G.; Martynov, Yu. D.; Rogelin, Ye. M.; Rabinin, Yu. N.

TITLE: Healing of pores and cracks in copper by extrusion with a high-pressure fluid

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 5, 1964, 778-783

TOPIC TAGS: copper, copper defect, metal defect, density defect healing

ABSTRACT: The healing of microscopic pores and cracks in metal by plastic deformation has been investigated. Specimens of sound copper and copper with artificially produced pores and cracks were hydrostatically extruded or drawn with a 5—60% reduction at room temperature. Both methods of deformation increased the tensile and yield strengths, reduction of area, and density of both sound and defective specimens; extrusion did so to a greater extent than drawing (see Figs. 1 and 2 of the Enclosure). The mechanical properties and density of defective copper changed slightly with small reductions (5—8%) but increased appreciably with increasing reduction; with a reduction of 40% they

Card 1/2

L 16301-65
ACCESSION NR: AP4046094

ENCLOSURE: 01

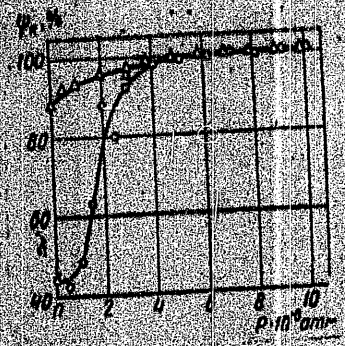


Fig. 1. Ductility of sound (1) and defective (2) specimens of M2 copper versus hydrostatic pressure

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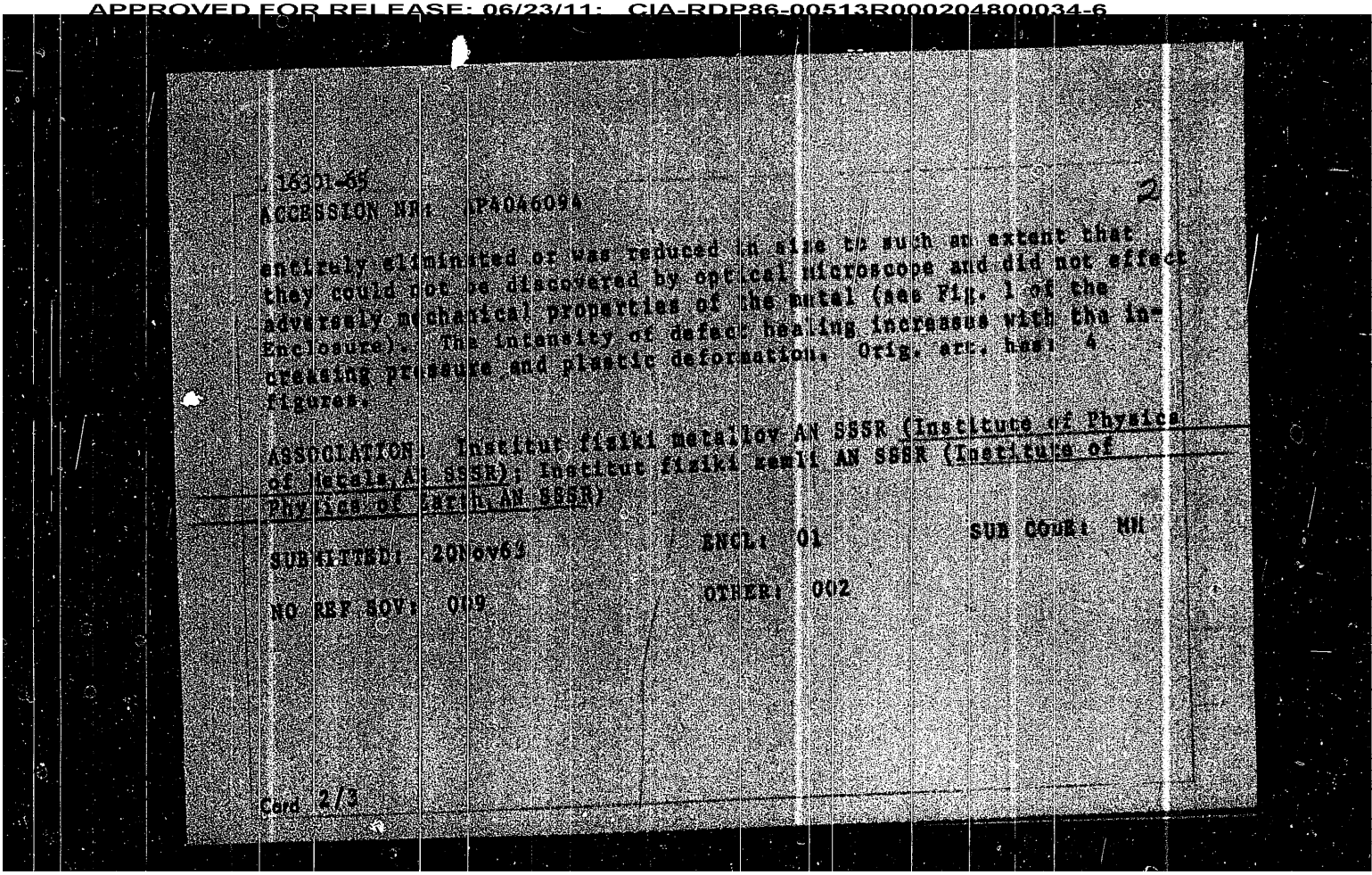

L 16301-65
ACCESSION NR: AP4046094

2

entirely eliminated or was reduced in size to such an extent that they could not be discovered by optical microscope and did not effect adversely mechanical properties of the metal (see Fig. 1 of the Enclosure). The intensity of defect healing increases with the increasing pressure and plastic deformation. Orig. art. has: 4 figures.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, AN SSSR); Institut fiziki zemli AN SSSR (Institute of Physics of Earth, AN SSSR)

SUBMITTED: 20Nov63 ENCL: 01 SUB CODE: MM

NO REF SOV: 019 OTHER: 002

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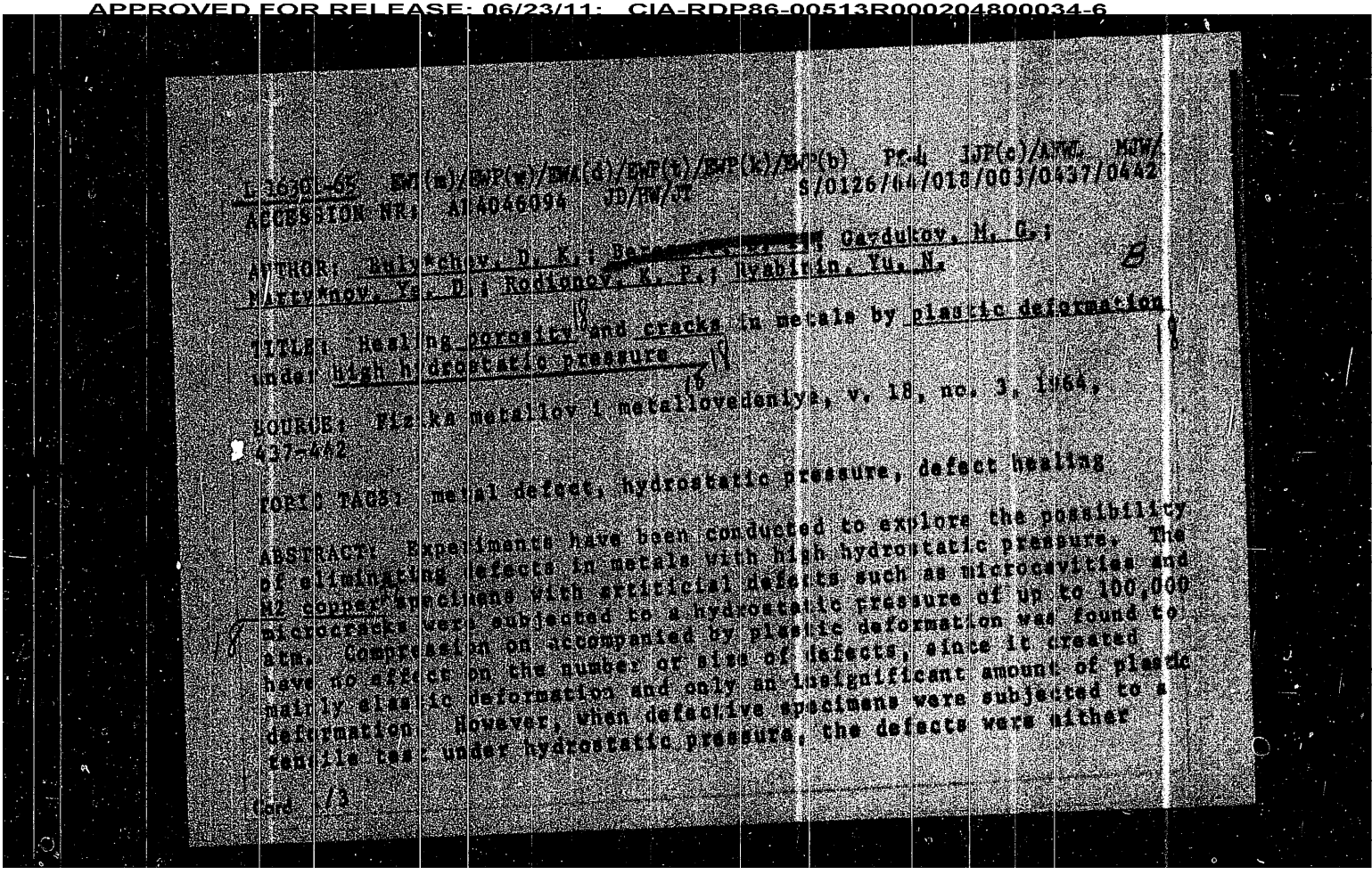

L 3630-65 EWT(m)/EWP(w)/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pt-4 IJP(c)/AFWL MDW/
ACCESSION NR: AT4046094 JD/HW/JT S/0126/64/018/003/0437/0442

AUTHOR: Bulychev, B. K.; Bernshteyn, [illegible]; Gazdukov, M. G.; Martynov, Ye. D.; Rodionov, K. P.; Ryabitin, Yu. N.

TITLE: Healing porosity and cracks in metals by plastic deformation under high hydrostatic pressure

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 3, 1964, 437-442

TOPIC TAGS: metal defect, hydrostatic pressure, defect healing

ABSTRACT: Experiments have been conducted to explore the possibility of eliminating defects in metals with high hydrostatic pressure. The M2 copper specimens with artificial defects such as microcavities and microcracks were subjected to a hydrostatic pressure of up to 100,000 atm. Compression accompanied by plastic deformation was found to have no effect on the number or size of defects, since it created mainly slip in deformation and only an insignificant amount of plastic deformation. However, when defective specimens were subjected to a tensile test under hydrostatic pressure, the defects were either

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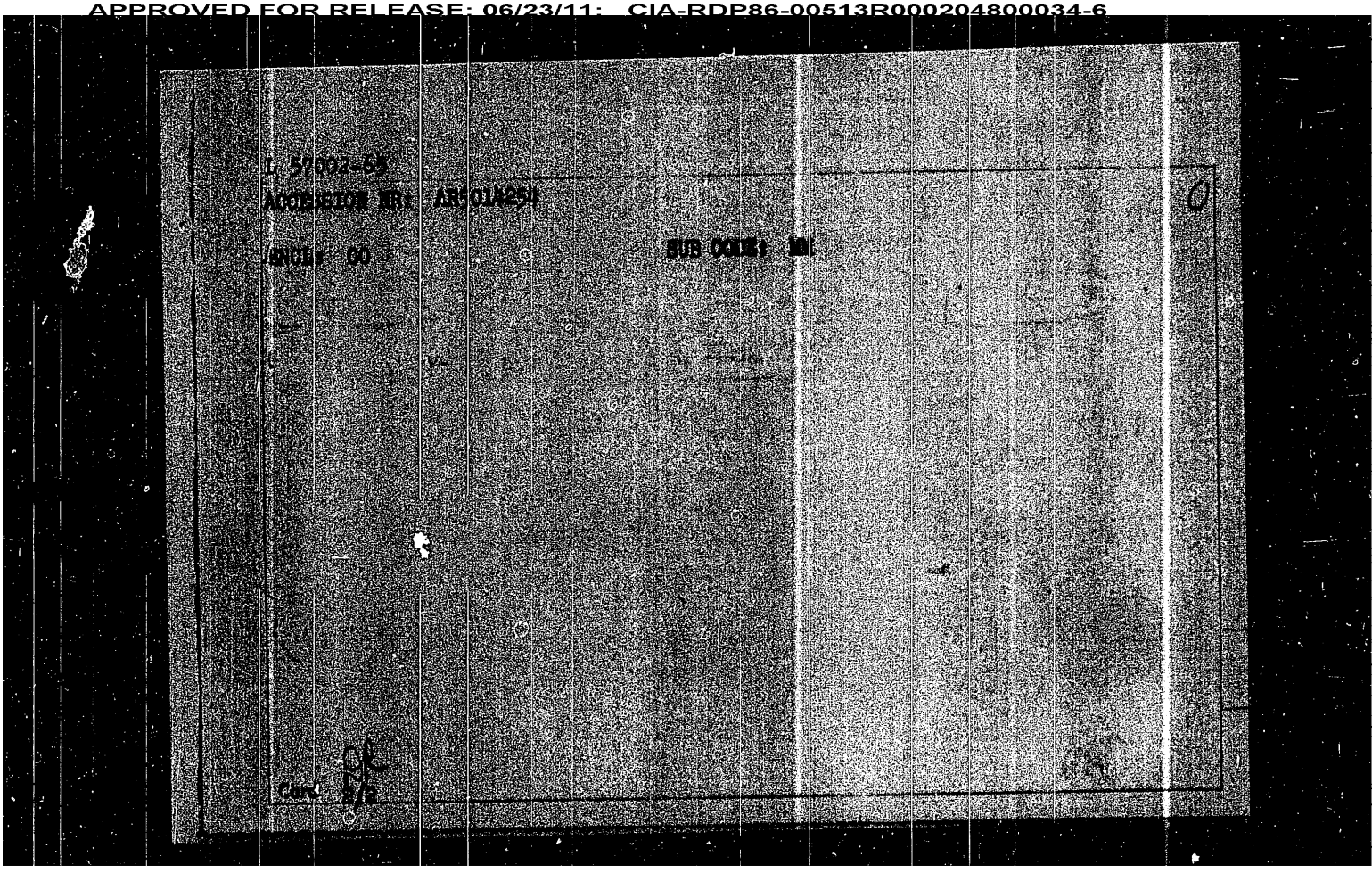

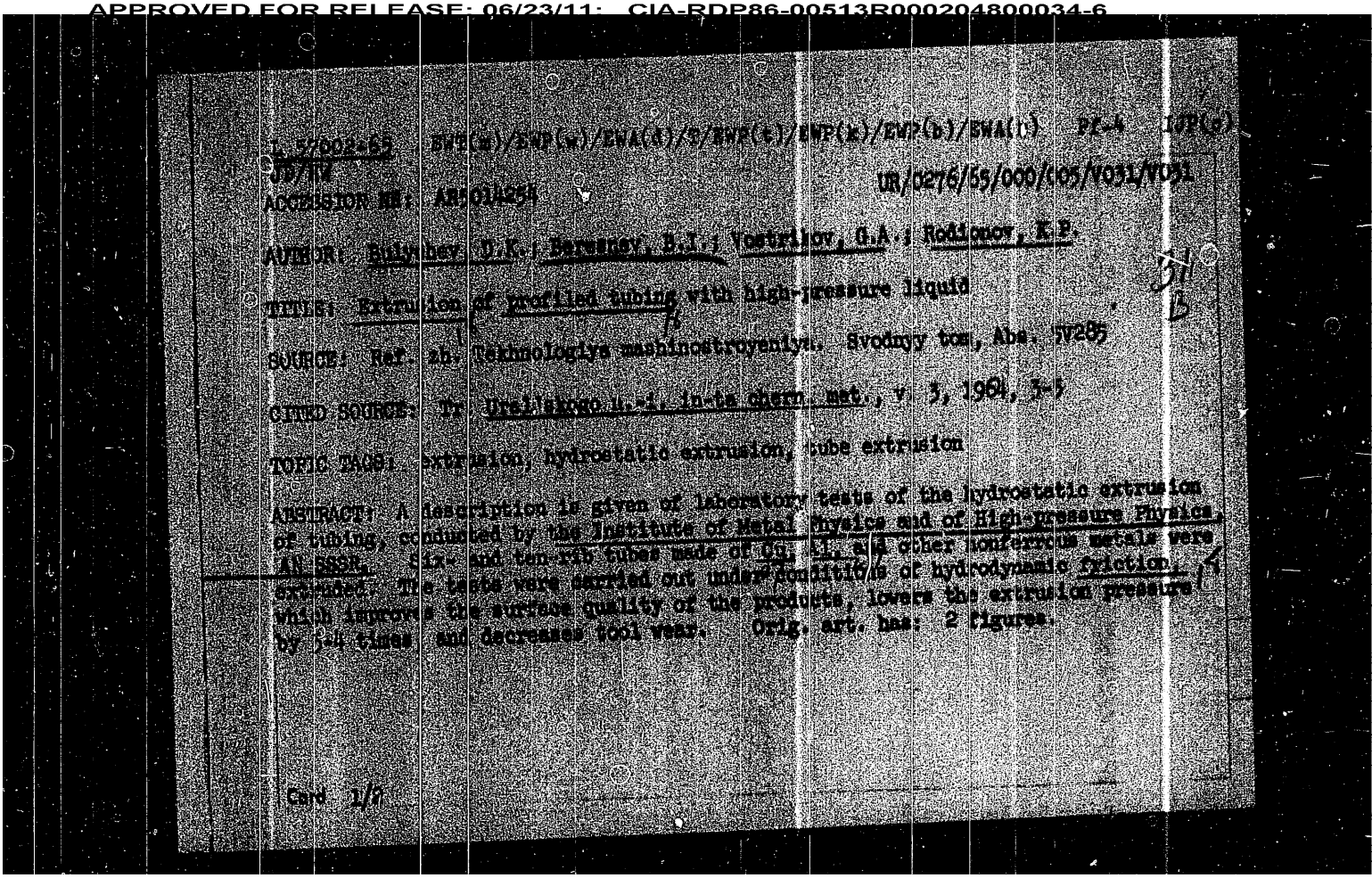

L 57602-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) PL-4 IOP(c)
JD/HW UR/0276/65/000/005/V031/V031
ACCESSION NR: AR5014254

AUTHOR: Bulynbev, D.K.; Baranov, B.I.; Vostrikov, G.A.; Rodionov, K.P.

TITLE: Extrusion of profiled tubing with high-pressure liquid

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 5V285

CITED SOURCE: Tr. Vses. n.-i. in-ta chern. met., v. 3, 1964, 3-9

TOPIC TAGS: extrusion, hydrostatic extrusion, tube extrusion

ABSTRACT: A description is given of laboratory tests of the hydrostatic extrusion of tubing, conducted by the Institute of Metal Physics and of High-pressure Physics, AN SSSR. Six- and ten-rib tubes made of OT4, D1, and other nonferrous metals were extruded. The tests were carried out under conditions of hydrodynamic friction, which improves the surface quality of the products, lowers the extrusion pressure by 3-4 times and decreases tool wear. Orig. art. has: 2 figures.

Card 1/2

BERESNEV, B.I.; BULYCHEV, D.K.

Mechanical properties of aluminum and copper after extrusion by high pressure fluids. Fiz. met. i metalloved. 16 no.1:117-123 Jl '63. (MIRA 16:9)

1. Institut fiziki metallov AN SSSR i Institut fiziki Zemli AN SSSR.

(Extrusion (Metals))
(Nonferrous metals--Testing)

Extrusion of cast iron by high- ... S/126/62/013/006/018/018
E111/E192

uniaxial compression studied by L.I. Markovskaya et al., (FMM, v.11, 1961, no.2).
There are 2 figures and 1 table.

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Physics of Metals, AS USSR)

Institut fiziki Zemli AN SSSR
(Institute of Physics of the Earth, AS USSR)

SUBMITTED: Octoner 28, 1961

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39767
S/126/62/013/006/018/018
E111/E192

1.1310

AUTHORS: Bulychev, D.K., and Beresnev, B.I.

TITLE: Extrusion of cast iron by high-pressure liquid

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.6, 1962, 942-944

TEXT: The authors report investigation of high-pressure extrusion of ordinary high-strength, magnesium-innoculated and bismuth-innoculated grey irons. Deformation and changes in hardness at 12000 atm were studied. The results show that ordinary grey irons with lamellar graphite cannot gain appreciably in plasticity when deformed by high pressure liquid; above 45% plastic deformation their hardness falls sharply. For innoculated irons with spheroidised graphite 74% plastic deformation is not the limit. At up to 30-40% deformation intensive strengthening occurs. Hardness measurements of these irons indicated that intensive hardening occurs until the deformation of 30-40% is reached and that in this respect these irons behaved similarly to the innoculated irons exposed to

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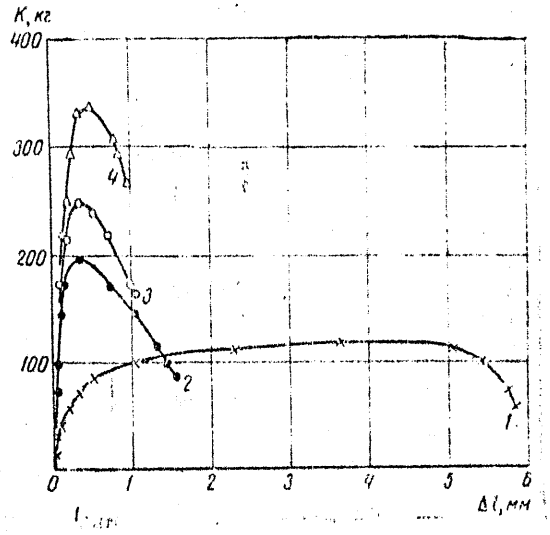
21370

Change in the Magnetic Properties... S/126/61/011/004/020/023
E073/E535

ASSOCIATIONS: Institut fiziki vysokikh davleniy AN SSSR (Institute of High Pressure Physics AS USSR) and Institut fiziki metallov AN SSSR (Institute of Physics of Metals AS USSR)

SUBMITTED: August 6, 1960

Fig.1



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specimens of commercial iron with preliminary deformations of S_f = 0, 0.784, 2.06 and 3.88 (curves 1 to 4 respectively), K, kg vs. $\Delta\ell$, mm. Fig.2 shows the changes in these characteristics and in the microhardness as functions of the preliminary deformation S_f. It can be seen that with increasing S_f the strength characteristics increase appreciably. Thus, the strength of iron can be increased from 35 kg/mm^2 (S_f = 0) to 98 kg/mm^2 (S_f = 3.88). The character of these dependences leads to the conclusion that although the intensity of work hardening decreases with increasing deformation, there is a possibility of further increasing the strength of the metal. Photographs of polished specimens show that during the process of deformation the ferrite grains stretch in the direction of flow of the material and there is a predominance of intracrystalline deformation right up to the highest values of S_f. Admixtures which in the annealed state are distributed along the grain boundaries are intensively broken up but remain distributed along the grain boundaries. There are 4 figures and 4 Soviet references.

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the next extrusion experiments. The extrusion was by means of dies with an entry cone of 15°, the pressure applied at each stage was approximately 6000 kg/cm^2, using as a working medium a mixture of kerosene (1/3rd) and transformer oil (2/3rds). The metal was then used for producing tensile test specimens. This enabled determining the mechanical properties of iron after various degrees of preliminary deformation. In addition polished sections were produced for studying the structure and also for measuring the microhardness along the cross-section. Pure commercial iron (C - 0.07%) was deformed in 15 passes to an extent of $S_f = \ln (F/f_o) = 3.88$ (F - initial cross-section of the blank, f_o - final cross-section of the rod). The limit plasticity of the iron in the annealed state, determined by tensile tests was S_f=1.76. Thus, it was possible to determine the mechanical properties of the metal at degrees of deformation which were 2.2 times as large as those corresponding to the limit plasticity under atmospheric pressure. The results have shown that with increasing preliminary deformation the strength of the metal increases but its ductility decreases. Fig.1 shows characteristic tensile test curves for

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18.8200 1413, 1454, 1418, also 2108

AUTHORS: Ryabinin, Yu. N., Beresnev, B. I. and Demyashkevich, B. P.

TITLE: Change in the Magnetic Properties of Iron Deformed by Extrusion with a Liquid Under High Pressure

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.11, No.4, pp. 630-633

TEXT: Recent investigations of Bridgman and the authors of this paper have shown the effectiveness of the method of extrusion of metals with liquid under high pressure on changing the mechanical properties of metals. So far, no data were available on the mechanical properties of metals extruded by applying a degree of deformation which considerably exceeds the limit contraction in the neck of tensile test specimens. The work described in this paper was carried out to elucidate this problem. The method used was the same as described in an earlier paper (Ref.3). Since the upper limit of pressures was 10 000 kg/cm^2, successive extrusion was applied for obtaining larger degrees of deformation, i.e. metal that has already been deformed was used for producing specimens for

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Specific Features of Extrusion of Metals at Elevated Temperatures With the Aid of Pressurized Fluids

obtained which was free from surface defects and which had surface finish corresponding to class 13 of the ГОСТ (GOST) specifications. Acknowledgments are made to Assistant Mechanic V.P.Ivkov for his assistance. There are 7 figures and 16 Soviet references.

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Physics of Metals AS USSR)

SUBMITTED: June 7, 1960

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extrusion process taking place under conditions of semi-fluid friction, whereas fluid friction conditions exist during the steady stage of the process. During the final stage of the present investigation, the effect of the working medium on the quality of extruded material was studied. It was found that with increasing extrusion pressure which causes an increase in the viscosity of the working liquid, the tendency of the metal to fracture increased. The nature of the defects depend on the extrusion temperature. Extrusion at room temperature under $P = 4500$ kg/cm^2 resulted in pronounced "kinking" of the rod. Extrusion at 150°C with water, alcohol or kerosene used as the working media, resulted in flaking off of the surface layers of the extruded rod. Finally, if the critical temperature of the working medium was exceeded, bringing about a breakup of the lubricating film, seizure took place and smaller or larger chunks of metal were torn from the surface of the extruded rod. However, when the optimum working media and correspondingly low extrusion pressures were used, extruded rod was

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substance lowering the extrusion pressure at high temperatures, the extrusion pressure for that mixture was lower than that corresponding to either of the substances used alone. Although the causes of this effect are not yet understood, it was used as a basis for the formulation of mixtures most suitable for the application under consideration. The maximum reduction in extrusion pressure was attained when a 50/50 mixture of graphite and solidol or hypoid oil was used. The thickness of the lubricating film in the die aperture, measured at room temperature during the steady stage of the process, was 8 to 10 microns in the case of mineral oils, 3 to 4 microns for kerosene, water and alcohol and 12 microns for graphite; the corresponding figures at 120°C were 10 to 12 microns, 6 to 7 microns and 15 microns respectively. The thickness of the lubricating film at the moment when the metal just begins to flow through the die is 2 to 3 times less, and it is pointed out by the present authors that the values of extrusion pressures quoted in the present paper relate to this stage of the

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transformer oil was used. The substances in Group II comprise kerosene, ethyl alcohol, water and graphite flakes. Even at room temperature, the first 3 of these substances cannot form a stable lubricating film under conditions of critical or semi-fluid friction. Consequently, the fact that lower P is required at high temperature to extrude aluminium with the aid of these media must be attributed to the decrease in the strength of aluminium at elevated temperatures. Most interesting results, obtained in the course of the present investigation, were yielded by experiments in which mixtures of substances, belonging to either one or both groups discussed above, were used. In the case of mixtures containing one substance of each group, the extrusion pressure at room temperature was somewhere between those corresponding to pure substances. The same applied to mixtures of substances belonging to either group, used both at room and elevated temperatures. However, when a mixture of substances from different groups was used at elevated temperatures, at a certain concentration (usually > 50%) of the

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decreases with rising temperature. The substances in Group I represent high-boiling point mineral oils containing a larger or smaller proportion of fatty acids which form a stable lubricating film at low, but not at high, temperatures. The effect of fatty acids content on the lubricating properties of a 25/75 mixture of transformer oil and kerosene, at various temperatures, is illustrated in Fig.5, where the extrusion pressure P (kg/cm^2) at 20 (crosses) and 120°C (dots) is plotted against the oleic acid content (%) in the above mixture used for extruding aluminium ($\psi = 0.72$). Since it has been stated by some Soviet workers (Ref.12,13,15) that thermal stability of lubricating films can be increased by the addition of Cl-, S- or P-bearing components, the present authors studied the effect of 5% addition of CCl_4 on the properties of transformer oil. When the above mixture was used, the extrusion pressure at 120°C was equal to that required at 20°C; however, the pressure required when working with this mixture at 20°C was 4700 kg/cm^2 against 3700 kg/cm^2 required when pure

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deteriorated with raising temperature (higher P is required) whereas they improved when the kerosene/graphite (graphs 3, 2') or kerosene/transformer oil (graphs 2, 2') mixtures were used. Since the experiments described above were conducted for a constant degree of deformation, the next series of experiments consisted in extruding the alloys studied in the 75/25 mixture of kerosene and transformer oil at 20, 150 and 300°C to various degrees of total deformation. The results confirm the previously established fact that the relationship between P and $S_f = \ln F/f_o$ (where F and f_o denote the cross-section areas of the extrusion billet and extruded rod, respectively) is linear. The results of the next series of experiments, in which the combined effect of temperature and the nature of 30 various working media (pure substances and their mixtures) on the magnitude of P was investigated, indicated that the substances studied can be divided into two groups, Group I consisting of substances which increase P at elevated temperatures and Group II comprising substances in which P

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which was extruded through a die with the die angle $2\alpha = 90°$ and the die aperture diameter of 4.715 mm. The object of the first series of experiments was to determine to what extent the extrusion pressure at various temperatures is affected by the nature of the working liquid. The results are given in Fig.2, where the extrusion pressure P kg/cm^2 (required to attain reduction of area $\Psi = (F - f_o)F = 0.72$) is plotted against the temperature (°C), graphs 1 to 6 relating to the following working media: 1 - transformer oil; 2 - 75/25 mixture of kerosene and transformer oil; 3 - 50/50 mixture of kerosene and graphite; 4 - solidol; 5 - graphite; & 6 - 50/50 mixture of solidol and graphite. (Graphs 1' and 2', representing the theoretical temperature-dependence of P, were constructed on the assumption that P depends only on the mechanical properties of the extruded metal and is not affected by the variation of the properties of the working medium.) In the case of transformer oil (graphs 1, 1'), it will be seen that the extrusion conditions

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compressor, is fed through a receiver into the extrusion head, illustrated schematically in Fig.1. The extrusion billet (9) is set in the die (10) and then inserted in the container (7), filled already with the appropriate working liquid. To prevent mixing of the working liquid with that fed from the compressor, a return ball valve (3) separates the container from the receiver (1). A nut (12) ensures pressure-tight fit between the die and its seating in the container. A conical, cut-off valve (8) prevents a sudden drop of pressure in the container when the metal is forced out of the die aperture. The extruded metal, working liquid and the die are heated by an electric furnace (6) mounted directly on the container. The temperature of the die and extruded metal is measured by a thermocouple (12) with the accuracy of $\pm$ 5°C. High-alloy steels 45ХНМФА (45KhNMFA) and 3Х2В8 (3Kh2V8) were used as the materials of the container and die, respectively. All experiments described in the present paper were carried out on an aluminium-base alloy АД1 (AD1) containing 0.23% Si and 0.25% Fe

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