

L 33659-66

ACC NR: AP6014081

capacity of tungsten which differed by an average of 0.7% from the data of other authors. Curves are given which show the thermal diffusivity of tungsten as a function of temperature and the heat conductivity of tungsten as a function of temperature. Orig. art. has: 2 figures and 1 table.

SUB CODE: 11, 20/ SUBM DATE: 08Sep64/ ORIG REF: 008/ OTH REF: 003

Card 2/2 mc

BORISOV, V.G., kand.med.nauk (Leningrad, pr. Shchorsa, d. 70, kv. 6)

Paravertebral block with ethyl chloride in differential diagnosis
of acute appendicitis and renal colic. Vest.khir. 81 no.12:100-101 D '58.
(MIRA 12:2)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey No.2
(nach. - prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina
imeni S.M. Kirova.

(APPENDICITIS, differ. diag.

renal colic, value of paravertebral ethyl chloride
block (Rus))

(KIDNEYS, calculi

renal colid, differ, diag. from acute appendicitis,
value of paravertebral ethyl chloride block (Rus))

(ANESTHESIA, REGIONAL, in various dis.

appendicitis, acute, & renal colic, paravertebral
ethyl chloride block, differ. diag. value (Rus))

BORISOV, V.G.

Course of oxidative processes in burnt shock. Khirurgia 35 no.7:
114-116 JI '59. (MIRA 12:12)

1. Iz 2-y kafedry khirurgii dlya usovershenstvovaniya vrachey (nach. -
prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina akademii im.
S.M. Kirova.

(BURNS, metab.)

(SHOCK, metab.)

BORISOV, V.G., kand.med.nauk (Leningrad)

Multiple ulcers of the stomach and duodenum caused by islet adenoma
of the pancreas. Klin.med. 37 no.11:42-44 N '59. (MIRA 13:3)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey No.2
(nachal'nik - prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina
akademii imeni S.M. Kirova.
(PANGREAS neoplasms)
(ISLET CELL TUMOR compl.)
(PEPTIC ULCER etiol.)

BORISOV, V.G., kand.med.nauk (Leningrad, pr. Shchorsa, d. 70, kv. 6)

Transcutaneous and hepatic cholangiography [with summary in English]. Vest.khir. 82 no.2:55-56 F '59. (MIRA 12:2)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey No.2 (nach. - prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(CHOLANGIOGRAPHY

transcutaneous & hepatic in cadavers (Rus))

BORISOV, V.G., kand.med.nauk (Leningrad, pr. Shchorsa, d.70, kv.6)

Removal of the left lobe of the liver in angioma. Vest.khir. 83
no.10:132-133 0 '59. (MIRA 13:2)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey No.2
(nachal'nik - prof. I.D. Zhitnyuk) Voyenno-meditsinskoy ordena
Lenina akademii im. S.M. Kirova.
(LIVER neoplasms)
(HEMANGIOMA surgery)

BORISOV, V.G., kand.med.nauk

Formation of an esophageal-intestinal anastomosis. Vest.khir.
no.7:87-89 '61. (MIRA 15:1)

1. Iz 2-y khirurgicheskoy kliniki usovershenstvovaniya vrachey
(nach. - prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina
akademii im. S.M. Kirova.
(ESOPHAGUS--SURGERY) (INTESTINES--SURGERY)

BORISOV, V.G., dotsent

Gastrectomy with the formation of an "artificial stomach" and
inversion of the duodenum. Khirurgia no.10:75-77 '61.

(MIRA 14:10)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey No.2
(nach. - prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina
akademii imeni S.M. Kirova.

(STOMACH--SURGERY)

(DUODENUM--SURGERY)

BORISOV, V.G.

Surgery in a case of pancreatic sarcoma. Vop. onk. 7 no.1:91-93
'61. (MIRA 14:2)

(PANCREAS—TUMORS)

BORISOV, V.G., kand.med.nauk (Leningrad, ul.Furmanova, d.12, kv.11)

Intravenous injection of novocaine with dimedrol in the treatment
and prevention of reflex anuria. Nov. khir. arkh. no.9:74-75 S '61.
(MIRA 14:10)

1. Kafedra khirurgii Instituta usovershenstvovaniya vrachey No.2
(nachal'nik -- prof. I.D.Zhitnyuk) Voenno-meditsinskoy akademii
imeni S.M.Kirova.

(NOVOCAINE) (DIMEDROL) (URINE--SUPPRESSION)

BORISOV, V.G. (Leningrad, ul. Furmanova, d.12, kv.11)

Theoretical principles of surgical abdominalization of the heart.
Vest.khir. 86 no.3:77-79 Mr '61. (MIRA 14:3)

1. Iz 2-y khirurgicheskoy kliniki usovershenstvovaniya vrachey
(nach. - prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina
akademii im. S.M. Kirova.
(CORONARY HEART DISEASE) (HEART-SURGERY)

BORISOV, V.G., dotsent (Leningrad, ul. Furmanova, d.12, kv.11)

Some details of the technic of total gastrectomy. Vest.khir.
no.3:118-119 '62. (MIRA 15:3)

1. Iz 2-y khirurgicheskoy kliniki usovershenstvovaniya vrachey
(nach. - prof. I.D. Zhitnyuk) Voenno-meditsinskoy ordena Lenina
akademii im. S.M. Kirova.
(~~STOMACH~~-SURGERY)

BORISOV, V.G.

Vitamin B₁ (thiamine) content of tissues in burn shock.
Eksper. khir. i anest. S no.4:14-15 Zh-Ag '63. (MIRA 17:5)

1. Kafedra khirurgii dlya usovershenstvovaniya vrachey No.2
(nastavnik - prof. I.D. Zhitovsk) Voenno-meditsinskoy ordena
Lenina akademii imeni S.M. Kirova.

KOLYTSKAYA, O.D.; BORISOV, V.G.

Combined intubation anesthesia during operations on elderly
and senile persons. Trudy 1-go MMI 33:253-262 '64.

(MIRA 18:3)

KOLYUTSKAYA, O.D., kand. med. nauk; BORISOV, V.G.

Anesthesia in surgery on elderly persons. Trudy Inst. im.
N.V. Sklif. 9:193-196 '63. (MIRA 18:6)

1. Kafedra gosptal'noy khirurgii I Moskovskogo ordena Lenina
meditsinskogo instituta imeni Sechenova.

L 00602-66 ENT(1)/ENT(m)/EJA(d)/ENP(t)/ENP(k)/ENP(z)/ENP(b)/EWA(c) IJP(c) MJW/JD/HW

ACCESSION NR: AR5016954

UR/0276/65/000/007/V030/V030
621.981.214

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 7V223

AUTHOR: Borisov, V. G., Lysov, M. I.

TITLE: Improving the precision of embossing in stretch forming of parts from shapes

CITED SOURCE: Tr. Kazansk. aviats. in-ta, vyp. 84, 1964, 3-14

TOPIC TAGS: embossing precision, stretch forming process, blank heating, resistance heating tester

TRANSLATION: The authors present the results of a study seeking to determine the feasibility of improving precision in stretch forming of parts by incorporating short-period electric heating of the deformable blank in the process of embossing. The study includes a theoretical analysis of ways to improve the precision of the operation and establishes that this can be attained by brief periods of heating the blank while it is being deformed. An analysis of the effects of temporary heating on final mechanical properties of materials (D16 AT and V95ATI) made it possible to define proper heating temperatures and periods. The authors describe the design, the basic electrical and hydraulic pressure systems, as well as the
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L 00602-66

ACCESSION NR: AR5018954

operation of a compact experimental stretch-forming machine assembled at the Kazanskiy Aviatsionnyy Institut (Kazan' Aviation Institute) and equipped for brief resistance heating of the blank during the forming operation. Cited data from experiments on embossing parts from heated sheets and shapes confirm theoretical assumptions about a significant decrease in spring back and an improvement in embossing accuracy. Bibl. with 7 titles, 8 illustrations. S. Kolesnikov

2

SUB CODE: IE

ENCL: 00

Aluminum 1

Titani 1

Card 2/2

BOGOYAVLENSKIY, K.N.; GRIGOR'YEV, A.K.; BORISOV, V.G.

Experimental investigation of surface deformations during plastic bending. Trudy LPI no.243:112-117 '65.

(MIRA 18:6)

L 14532-66 EWT(d)/EWT(1)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)/
ACC NR: AT6003148 EWP(1) HJW/JD/HW SOURCE CODE: UR/2529/64/000/084/0003/0014

AUTHORS: Borisov, V. G.; Lysov, M. I. (Professor)

ORG: Kazan Aviation Institute (Kazanskiy aviatsionnyy institut)

TITLE: On the problem of increasing the accuracy of shaping by bending with pulling parts from profiles

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 84, 1964. Aviatsionnaya tekhnologiya i organizatsiya proizvodstva (Aviation technology and production management), 3-14

TOPIC TAGS: hydraulic device, pneumatic device, alloy, bending machine, aluminum alloy/ D16AT alloy, V95AT1 alloy, PGRN-KAI bending machine

ABSTRACT: The possibility of increasing the accuracy of bending with stretching of parts by brief electric heating is theoretically examined. The effect of brief heating on the final mechanical properties of the material is studied, and the possibility of increasing accuracy by brief heating is established. The effect of brief heating on the strengthening modulus D was studied with flat

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L 14532-66
ACC NR: AT6003148

samples of D16AT and V95AT1 alloys. A small-scale bending stand was developed and tested. The apparatus (see Fig. 1) has the following specifications: maximum

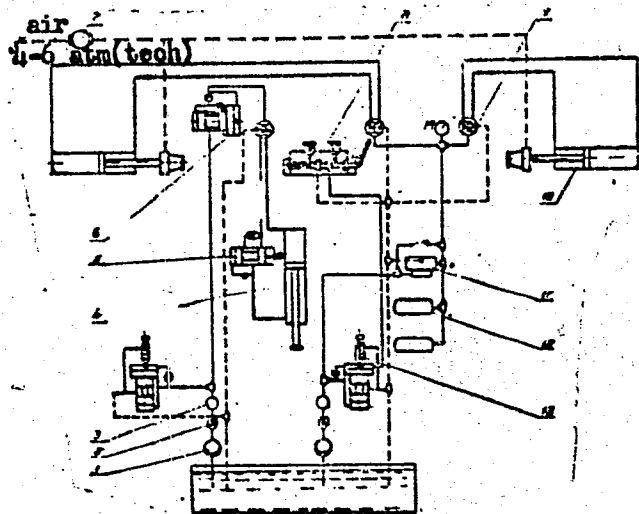


Fig. 1. Pneumohydraulic diagram of PORN-KAI apparatus:
 1 - hydraulic pump; 2 - reverse valve; 3 - filter; 4 - bending cylinder; 5 - pressure slide with reverse valve; 6 - speed regulator; 7 - air filter; 8 - pressure regulator; 9 - control cock; 10 - stretching cylinder; 11 - automatic unloading valve; 12 - hydraulic storage cell; 13 - safety valve.

Card 2/3

L 14532-66
ACC NR: AT6003148

force of bending and stretching cylinders, 7000 kg; length of blanks, 300-1200 mm; minimum bending radius, 25 mm; maximum angle of turn of bending brackets, 90°; maximum travel of shaft of cylinders, 500 mm; maximum pressure in hydraulic system, 65 kg/cm². The transformer for heating has a power of 14--48 kW. The experimental data indicate a substantial decrease in springing after unloading and an increase in accuracy of parts in shaping with heating to 200C. Orig. art. has: 2 tables, 4 graphs, 4 diagrams, and 2 formulas.

SUB CODE: 13/

SUBM DATE: 01Oct63/

ORIG REF: 006/

OTH REF: 001

TS
Card 3/3

BORISOV, V. G.

USSR/Radio Receivers
Indicators, Tuning
Vacuum tubes

Feb 1947

"1-V-1 Receiver with Optical Indicator," V. G.
Borisov, 5 pp

"Radio" Vol XX, No 2

Adapting type 6E5 tube for above purpose. Article
includes sketch diagram of subject receiver and a
series of photographs of the same.

9T31

PA 66/49T107

BORISOV, V.

USSR/Radio - Training
Instruction

Aug 49

"Instructions to Aid Leaders of Radio Clubs,"
V. Borisov, A. Stakurskiy, 3 pp

"Radio" No 8

Discusses instructional procedures for training
DOSARM members. Recommends course in history
of radio and its current state, for background
training--to be followed by progressive training
with crystal sets, tube sets, transmitters, and
VHF equipment. Stresses importance of teaching
DOSARM members techniques of reading schematic

66/49T107

USSR/Radio - Training (Cont'd) Aug 49
diagrams and indicates proper techniques for
organizing and conducting radio groups.

66/49T107

BORIŠOV, V.

33127

V Pomoshch' Rukovoditelzh Radiokruzhka. (Metod I Prakt. Ukazaniya Po Organizatsii Kruzhka I Provedeniyu Zanyatiy). Radio, 1949, No 10, c. 12-13-Okonchaniye. Nachalo: No 8

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

BGRISOV, V.G.

IUnyi radioliubitel'. [The youthful radio amateur]. Moskva, Gos. energ. izd-vo, 1951. 351 p. (Massovaiia radio-biblioteka, vyp. 100). DLC: Slavic unclass.

Radiokruzhok i ego rabota. [Radio club and its work]. Moskva, Gosenergoizdat, 1951. 72 p.

SC: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

BORISOV, V. G.

Technology

School radio sending and receiving station. Moskva, Gos. Izd-vo detskoi lit-ry, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

BORISOV, V.G.

BORISOV, V.G. The young radio amateur Moskva, Gos. energ. izd-vo, 1951. 351p.
(Massovaia radio-biblioteka, vyp.) 100 (51-36019)

TK9956.B55

BORISOV, V.

"Television Reception in Kaluga" V. Borisov
Radio, no. 2, p. 38, Feb. 1952

A brigade of the Moscow TV Network Admin set up in Kaluga (152 air km from Moscow) a KVN-49-B TV receiver with a sensitivity of 300-400 Uv. Antenna was placed on a bldg 30 m high. After successful tests with the KVN-49-B, a special receiver was built by the Kaluga Oblast Admin of Wired Radio Networks and the expts were continued. Picture reception was found to be highly dependent on atmospheric conditions.

BORISOV, V.

Radio Clubs

Radio circle of the original organization of the All-Union Voluntary Society for Assistance to the Army, Aviation and Navy. Radio No. 4, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

BORISOV, V.

Classroom instruction in radio circles concerning the building of detector receivers. Radio no.6:59-61 Je '53. (MLRA 6:6)
(Radio--Study and teaching)

~~BORISOV, Viktor Gavrilovich; BERG, A.I.; DZHIGIT, I.S.; YELIN, O.G.,
KULIKOVSKIY, A.K.; MOZHZHEVELOV, B.N.; SMIRNOV, A.D.; TARASOV,
F.I.; TRAMM, B.F.; CHECHIK, P.O.; SHAMSHUR, V.I.; MALININ, R.M.
redaktor; VORONIN, K.P., tekhnicheskij redaktor~~

[Young radio amateur] Iunyi radioliubitel'. Izd. 2-oe, ispr. i
dop. Moskva, Gos.energ.isd-vo 1955. 271 p.(Massovaya radio-
biblioteka, no.224) (MLRA 8:11)
(Radio-Amateurs' manuals)

BORISOV, V.; TARASOV, F., redaktor; YKPREMOVA, Ye.; MUNTJAN, T., tekhnicheskij redaktor

[My first radio receiving set] Moi pervyi radiopriemnik. Moskva, Ivd-vo Dosaaf, 1955. 76 p. (MLRA 8:7)
(Radio--Receivers and reception)

ECRISOV, V.

How I achieved a speed of 400 signals a minute. p. 10.

Vol. 4, no. 9, 1955

RADIO

Sofiya, Bulgaria

So: Eastern European Accession Vol. 5 No. 4 April 1956

BORISOV, V.

How to Become a Competition Radio Operator. In Radio Engineering,
No. 2:16 Feb 55

BORISOV, Viktor Gavrilovich; TEREKHOV, V.D., redaktor; YUSFINA, N.L.,
tekhnicheskiiy redaktor.

[Manual for science and technology study groups] V pomoshch'
nauchno-tekhnicheskim kruzham. Moskva, Gos.izd-vo kul'turno-
presvetitel'nei lit-ry, 1956. 86 p. (MIRA 9:6)
(Science--Audiovisual aids) (Technology--Audiovisual aids)

BORISOV, V.

The paris system. p. 9 RADIO (Ministerstvo na poshtite, telegrafite, telefonite i radioto i Tsentralnia suvet na dobrovlnata organizatsiia za subeistvie na otbranata) Sofiya. Vol. 5, No. 4, 1956

SOURCE: East European Accessions List, (EEAL) Library of Congress, Vol. 5, No. 11, November 1956

BORISOV, V.

Looking forward to future competitions. p. 6,

RADIO. Vol. 5, no. 5, 1956

Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Library of
Congress, Vol. 6, No. 1, January 1957

BORISOV, Vesselin (Bolgariya).

How I take radiograms by hand. Radio no.11:19-20 N '56.
(Radio operators) (MLRA 9:12)

BORISOV, V.G.; ROVKOVA, T.P., red.; KREYS, I.G., tekhn. red.

[Club for young radio engineers] Kruzhok imykh radiotekhnikov.
Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1958.
85 p. (MIRA 11:10)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye shkol.
(Radio).

BORISOV, Viktor Gavrilovich; MALININ, R.M., red.; VORONIN, K.P., tekhn.red.

[Young radio amateur] IUnyi radioliubitel'. Izd.3., perer. i dop.
Moskva, Gos.energ.izd-vo, 1959. 279 p. (Massovaia radiobiblioteka,
no.330) (MIRA 12:11)
(Radio--Amateurs' manuals) (Radio--Juvenile literature)

BOGOYAVLENSKIY, K.N.; GRIGOR'YEV, A.K.; BORISOV, V.G.; ROGACHEV, Yu.D.

Cross stretching of strip in the manufacture of large cold-bent
shapes. Trudy LPI no.238:64-67 '64. (MIRA 17:11)

ACC NR: AR6035439

sumption, increases the accuracy of the parts, extends the possibility of using existing equipment for forming high-strength materials, and is also the only possible means of forming parts from materials that have low plasticity in the cold state. [Translation of abstract]

SUB CODE: 13

Card 2/2

ACC NR: AT7003264

SOURCE CODE: UR/2563/66/000/263/0048/0050

AUTHOR: Bogoyavlenskiy, K. N. (Doctor of technical sciences; Professor);
Samarin, Yu. F.; Borisov, V. G.; Khoroshaylov, V. G.; Gyulikhandanov, Ye. L.

ORG: none

TITLE: Roll bending of structural shapes from solution-annealed heat-treatable aluminum alloys

SOURCE: Leningrad. Politeknicheskii institut. Trudy, no. 263, 1966. Mashiny i tekhnologiya obrabotki metallov davleniyem (Machinery and technology of metalworking by pressure), 48-50

TOPIC TAGS: aluminum alloy, ^{annealing, fabricated structural metal,} ~~solution-annealed aluminum alloy~~, ^{alloy} heat treat^{ment,} ~~aluminum alloy~~, ~~roll~~ bending, ~~aluminum alloy~~ ^{mitel} roll bending/D16-Am aluminum alloy

ABSTRACT:

A study has been made to determine the maximum allowable time interval between solution annealing and roll bending of aluminum-alloy structural shapes. D16-AM aluminum alloy specimens (2-3 mm thick, 71-73 mm wide and 500 mm long), solution annealed at 495C and quenched in water, were roll bent within 20 to 120 minutes from the time of quenching. For comparison, some specimens were bent 200 hr after quenching (solution annealed and artificially aged), and some were bent after solution annealing and slow cooling. It was found that cracks

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UDC: 621.97.001.5

ACC NR: AT7003264

appeared in 2 mm thick specimens rolled 55—60 min and in 3 mm thick specimens rolled 45—50 min from the time of quenching. There were no cracks in solution-annealed and slowly cooled specimens. Solution-annealed and artificially aged specimens fractured completely along the bend line. It is concluded that solution-annealed and water-quenched D16-AM aluminum alloy strips can be roll bent with the same bending parameters ($r_0/t = 0.6-2.0$) as annealed strips, but the bending should be completed within 45—55 min after quenching. Orig. art. has: 2 figures and 1 table. [TD]

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 5115

Card 2/2

ACC NR: AR6035439

SOURCE CODE: UR/0276/66/000/008/v026/v026

AUTHOR: Borisov, V. G.

TITLE: Investigation of the influence of heating and the distribution of the temperature of the stock part on the accuracy of the forming process during bending plus stretching of parts from sections

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 8V218

REF SOURCE: Sb. Materialy 2-y Konferentsii molodykh nauchn. rabotn. Kazani, Sekts. fiz.-tekhn. i mekhan.-matem. Kazan', 1965, 226-233

TOPIC TAGS: metal forming, metal bending, metal heat treatment, metal stress, metal softening

ABSTRACT: The author has carried out at the "Aircraft Production" department of KAI theoretical and experimental investigations of the process of bending accompanied by stretching under conditions when the stock part is heated for a short time with electric current during the instant of forming. It is established that the change in the curvature due to the springing of the material during the bending plus tension process is greatly reduced when the heating is increased during the forming process. To prevent an uneven deformed state of the element, due to uneven distribution of the temperature along the bent contour, it is necessary to effect differentiated heating of the forming die to a definite temperature. On the whole, heating during forming reduces the number of operations in the process and consequently reduces its labor con-

Card 1/2

UDC: 621.981.1

L 11284-67 ACC NR: AN0023315
EWP(r)/EWP(k)/EWP(w)/EWP(t)/TTI LIP(c) SOURCE CODE: UR/02/77/06/000/005/0026/0026

AUTHOR: Markovets, M. P.; Piskin, Yu. I.; Borisov, V. G.; Korobochkin, I. Yu.

TITLE: Use of the tension method for determining the yield point of Kh18N10T steel at high temperatures

SOURCE: Ref. zh. Mashinostr mat konstr i raschet detal mash. Hidropr, Abs. 3.48.191

REF SOURCE: Tr. Mosk. in-ta stali i splavov i Mosk. energ. in-ta, vyp. 61, ch. 2, 1965, 221-224

TOPIC TAGS: yield stress, tensile strength

ABSTRACT: Experiments are conducted to refine the relationship between the yield points obtained at 30 and 350°C on bars and tubes made of Kh18N10T steel. The equation $\sigma_{0.2}^{350} = 0.872 \cdot \sigma_{0.2}^{20} - 3.0$ was derived where $\sigma_{0.2}^{350}$ and $\sigma_{0.2}^{20}$ are the yield points at 350 and 20°C. The maximum error in this case is 3%. It is recommended that studies in this direction should be increased. [Translation of abstract]

SUB CODE: 11

Card 1/1 jb

UDC: 669.14.018:539.4

BORISOV, V.I., kand.geograficheskikh nauk; SHIROKIKH, D.P.,
kand.geograficheskikh nauk; VERCHENKO, P.A.

"Children's encyclopedia," Vol. 4. Reviewed by V.I. Borisov,
D.P. Shirokikh, P.A. Verchenko. Biol. v shkole no.3:91-93
MY-Je '61. (MIRA 14:7)
(Children's encyclopedias and dictionaries)

BORISOV, Vasilii Ivanovich; DERGACHEV, I.A., red.; SHAROVA, Ye.A.,
red. izd-va; GRIGORCHUK, L.A., tekhn. red.

[Laboratornyi praktikum po metallovedeniiu i termicheskoi ob-
rabotke. Moskva, Izd-vo "Vysshiaia shkola," 1962. 151 p.
(MIRA 15:5)

(Physical metallurgy) (Metals—Heat treatment)

BORISOV, V.I.; GOR, A.I.; NEVZOROV, A.M.; RYBINSKIY, D.A.; SOLOV'YEV,
V.S.; EVART, G.V.; PROSVIRNIN, A.D., red.; VASIL'YEVA, I.A.,
red.; UVAROVA, A.F., tekhn. red.

[The M-21 "Volga" automobile; construction and maintenance]
Avtomobil' M-21 "Volga"; konstruktsiia i tekhnicheskoe ob-
sluzhivanie. [By] V.I.Borisov i dr. Pod red. A.D.Prosvirni-
na. Moskva, Mashgiz, 1962. 447 p. (MIRA 15:3)

1. Glavnyy konstruktor Gor'kovskogo avtomobil'nogo zavoda (for
Prosvirnin).

(Automobiles)

BORISOV, V. I.

Vertical Drainage as a Measure in the Struggle Against Heavings

On the basis of theoretical considerations the authors give conclusions concerning the expediency of employing vertical drainage for the purposes of obviating the swelling and heaving of automobile roads, even in those cases where a water permeable layer of ground under a road bed is absent. Analyzing the character of freezing through of a road bed that has vertical drainage, the author demonstrates the advantages of such drainage; e.g., zones of vertical drainage are places where entrapped air escapes; they prevent the possibility of the occurrence of hydrostatic pressure in the ground or its freezing and subsequenting hummocking, etc. (RZhGeol, No. 5, 1955) Nauch. tr. Leningr. inzh.-stroit. in-ta. No. 18, 1954, 136-142.

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

BORISOV, V. I.

BORISOV, V. I. - "Certain Problems of Chasm Formation and Measures for Combatting Chasm Formation in Automobile Highways." Min of Higher Education USSR, Leningrad Order of Labor Red Banner Engineering-Structural Inst, Chair of Investigation, Design, Construction, and Operation of Automobile Highways, Leningrad, 1955 (Dissertations For Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

Isobritsev, V. I.

MOROZOV, S.A., kandidat tekhnicheskikh nauk; BORISOV, V.I., inzhener;
RUMYANTSEV, G.Ya., inzhener.

The SUEG-2 automotive unit for paving soil surfaces. Izobr. v
SSSR 1 no.4:8-10 0 '56. (MIRA 10:3)
(Road machinery)

BORISOV, V. I.

BELYSHEV, Valentin Nikolayevich; BORISOV, Vitaliy Ivanovich; PROSVIRNIN, Aleksandr Dmitriyevich; SHNEYDER, Georgiy Konstantinovich; LIPGART, A.A., prof., red.; AVAKIMOV, G.G., red.izd-va; SHIKIN, S.T., tekhn. red.

[GAZ-51A motortruck; design, maintenance, and repair] Avtomobil' GAZ-51A; ustroistvo, obsluzhivanie i remont. Izd. 2., ispr. i dop. Pod obshchei red. A.A.Lipgarta. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 515 p. (MIRA 11:7)
(Motortrucks)

BORISOV, V.I.

Electric equipment of the "Chaika" automobile. Avt.prom. no.2:
1-3 F '60. (MIRA 13:5)

1. Gor'kovskiy avtozavod.
(Automobiles--Electric equipment)

BORISOV, V. I.

Borisov, V. I., Kapitonov, Ye. I., Azovskoye more (The Azov Sea) Krasnodar, Kndgoizdat (Publishing House), 1957, 76 pages, ill. (ZhGeogr 1/58-558) (Book)

Борисов

В. Г. Дубинский,
А. В. Кошкин
Проблема помехоустойчивости приборов для зонда радиотехнических сооружений

А. В. Кузнецов
Некоторые технические приложения фазометрических методов измерения амплитудно-фазовых соотношений

В. В. Козлов,
Е. А. Козлов,
Г. В. Козлов,
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Опыт разработки измерительного радиоприбора

И. С. Ситников

Некоторые проблемы для автоматизации процесса оценки помеховой обстановки обстановки радиотехнических систем

11 страниц
(с 18 до 22 часов)

М. В. Фомин
Вопросы разработки комплекса СВЧ измерительной аппаратуры для радиотехнических систем

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Вопросы методики измерения и интерпретации результатов при измерении группового времени задержки на СВЧ и сверхвысоких частотах

В. М. Шибко,
В. В. Баранов,
Д. А. Тихонович

Использование визуальной индикации для контроля помеховой обстановки

А. М. Чернушкин

Установка для исследования вычислительных систем в лабораторных условиях

И. И. Соловьев,
В. В. Лещинский

Прибор для визуального отображения сигналов дифференциальной частотной модуляции в диапазоне метров

В. СЕМЕНОВ ОБЩЕЕ РАДИОТЕХНИЧЕСКОЕ
Руководитель: Г. А. Лещинский

9 страниц
(с 10 до 12 часов)

43

report submitted for the Centennial Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in. A. S. Popov (VSEUR), Moscow,
6-12 June, 1959

SOV/68-59-8-31/32

AUTHORS: Situlin, I.K. and Borisov, V.I.

TITLE: A Fluidised Bed Plant for the Production of Semicoke in the Rumanian People's Republic (Ustanovka dlya polucheniya polukoksa po metodu flyuidizatsii v Rumynskoy Narodnoy Respublike)

PERIODICAL: Koks i khimiya, 1959, Nr 8, pp 61-64 (USSR)

ABSTRACT: A fluidised bed carbonising furnace for the production of semicoke from low rank coals built in Rumania is described and illustrated. Fluidisation is done by a mixture of compressed air and combustion products of a temperature of 600-650°C. Blast furnace gas is used for firing; in addition a part of the coal is burned in the fluidised bed. The output of furnace: 70 tons of dry semicoke per day. In the process the volatile content of coal of 40% is decreased to 14-15% in semicoke. By-products are as yet not collected but burned. The semicoke produced is used for blending with coal for the production of metallurgical coke in stamp charged ovens. There are 2 figures.

Card 1/1

TSENIN, S.A.; BORISOV, V.I.; BASHINSKIY, S.V., otv.red.; RUDAKOVA,
N.I., tekhn.red.

[Standards and estimates for building, repair, and assembly work]
Edinye normy i rastsenki na stroitel'nye, montazhnye i remontno-
stroitel'nye raboty, 1960 g. Moskva, Gos.izd-vo lit-ry po stroit.,
arkhit. i stroit.materialam. Sbornik 1. [Hoisting, conveying and
unloading operations in construction areas] Vnutripostroechnye
transportnye raboty. 1960. 45 p. (MIRA 14:1)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam
stroitel'stva.
(Loading and unloading) (Building materials--Transportation)

SHIROKIKH, D.P. (g.Krasnodar); BORISOV, V.I. (g.Krasnodar)

Our first experience in conducting pedagogical training in the
fundamentals of agriculture. Politekh.obuch. no.5:68-71

My '59.

(MIRA 12:7)

(Krasnodar--Teachers, Training of)
(Agriculture--Study and teaching)

BORISOV, V.I.

PHASE I BOOK EXPLOITATION

SOV/4644

Spetsializatsiya i kooperirovaniye promyshlennosti; opyt raboty sovmarkhozov
(Specialization and Cooperation in Industry; Operating Experience of Councils
of National Economy) Moscow, Gosplanizdat, 1960. 253 p. 5,000 copies printed.

Gen. Ed.: S. I. Semin; Eds.: Ye. I. Komarov, and I. S. Maksimov; Tech. Ed.: Ye. S.
Gerasimova.

PURPOSE: This book is intended for persons working on practical problems of
specialization and cooperation within the industry of individual economic
regions.

COVERAGE: The book presents problems of development of specialization and co-
operation within industry in Leningrad, Novosibirsk, Khar'kov, Dnepropetrovsk,
Kemerovo, Kherson, and other Administrative Economic Regions in 1959-1965. This
book is the first attempt to describe the experience of individual National
Economic Councils. No personalities are mentioned. There are no references.

~~Card 1/5~~

Specialization and Cooperation (Cont.)

SOV/4644

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ADESTOV, G.N.; BORISOV, V.I.; DVORYANINOV, N.V.; DUBKOV, V.B.;
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CHERNOMASHINTSEV, A.I.; SHIKHOV, B.N.; YAKUBOVICH,
I.Ye.; UL'YANETSKIY, A.M., nauchn. red.; PROSVIRIN, A.D.,
stv. red.; MONAKHOVA, N.F., red.; KOGAN, F.L., tekhn. red.

["Motor vehicles of the U.S.S.R." catalog; the GAZ-51,
GAZ-51A, GAZ-63 and GAZ-63A motortrucks; structural changes
and the interchangeability of parts and units] Katalog-
spravochnik "Avtomobili SSSR: avtomobili GAZ-51, GAZ-51A,
GAZ-63, GAZ-63A; konstruktivnye izmeneniia i vzaimozamenia-
emost' detalei, uzlov i agregatov. Moskva, 1963. 74 p.
(MIRA 16:12)

1. Moscow. Tsentral'nyy institut nauchno-tekhnicheskoy in-
formatsii po avtomatizatsii i mashinostroyeniyu. 2. Glavnyy
konstruktor Gor'kovskogo avtomobil'nogo zavoda (for
Prosvirin).

(Motortrucks--Catalogs)

KUVSHINOV, G.Ye.; MOROZOV, A.V.; BORISOV, V.I., *otv. red.*

[Calculation of direct amplitude and phase compounding systems of marine synchronous generators] Raschet sistem priamogo amplitudno-fazovogo kompaundirovaniia sudovykh sinkhronnykh generatorov. Vladivostok, Primorskoe knizhnoe izd-vo, 1963. 35 p. (MIRA 18:3)

BORISOV, V.I.; BRYUNIN, A.N.; VINOGRADOV, G.A.; RESHETOV, S.I.

[Printing industry] Poligraficheskoe proizvodstvo. Moskva, Iskusstvo, 1953.
221 p. (MIRA 6:10)

(Printing industry--Study and teaching)

1. BORISOV, V. I.
2. USSR(600)
4. Dies (Metal-Working)
7. Breakdown of an upsetting macking tool, Avt. tr kt. prom. No. 1, 1953.

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

ECRISCV, V. I.

Steel - Heat Treatment

Hardening of tools for cold-upset automatic presses. Avt. trakt. prom. No.3, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

BORISOV, V.I., kandidat tekhnicheskikh nauk.

Increasing the stability of an upsetting tool. Avt.trakt.prom.
no.10:25-28 0 '54. (MIRA 7:10)

1. Zavod "Krasnaya Etmaa."
(Machine tools)

BORISOV, V. I.

BORISOV, V. II: "The principles of constructing photo-typesetting machines and methods of calculating their photo systems." Moscow, 1955. Min Higher Education USSR. Moscow Polygraphics Inst. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis' No. 47, 19 November 1955. Moscow.

BATAKOV, Aleksandr Tikhonovich; BORISOV, Vladimir Ivanovich;
ROZENFEL'D, Petr Yakovlevich; CHERNYSHEV, A.N., kand.tekhn.
nauk, retsenzent; LAVROV, G.A., inzh., retsenzent; KONC-
VAIOV, G.M., red.isd-va; SOKOLOVA, T.F., tekhn.red.

[Printing machinery] Poligraficheskie mashiny. Pod obshchei
red. A.T.Batakova. Moskva, Gos.nauchno-tekhn.isd-vo mashino-
stroit.lit-ry, 1959. 515 p. (MIRA 12:8)
(Printing machinery and supplies)

BORISOV, V.I.; LEVIT, Z.Yu., inzh.; KALININ, V.Z., inzh.; BROVKIN, M.G., inzh.; AGAL'TSOV, N.V., inzh.; ZHIGACHEVA, T.F., inzh.; LOBANOV, V.S., inzh.; ALIMOV, M.F., inzh.; VIKSMAN, I.M., inzh.; LAZAREV, V.Ya., inzh.; ZALEVSKAYA, L.V., tekhnik; SHCHETVINA, R.F., tekhnik; SOKOLOVSKIY, I.A., red.; SHALAGINOV, A.A., vedushchiy red.

[Special and basic equipment of mechanical assembly shops in instrument plants] Nestandartnoe oborudovanie i orgosnastka mekhanicheskikh sborochnykh tsekhov priborostroitel'nykh zavodov. Moskva, Otdel nauchno-tekhn. informatsii, 1959. 158 p.

(MIRA 15:4)

(Instrument industry—Equipment and supplies)

BORISOV, V.I.

Automatic sand conveying. Mashinostroitel' no.5:10-11 My '60.
(MIRA 14:5)

1. Glavnyy konstruktor Luganskogo zavoda im. Artema.
(Pneumatic tube transportation)

BORISOV, V.I., inzh.

Using assembly conveyers in manufacturing instruments. Mekh.
i avtom.proizv. 14 no.2:22-26 F '60. (MIRA 13:5)
(Instrument industry--Technological innovations)
(Assembly-line methods)

BORISZOV, V.I. [Borisov, V.I.]

Mounting belts in the Soviet instrument industry. Musz elet 15
no.7:13 Mr '60. (EEAI 9:?)
(Russia--Machinery industry)

BORISOV, V.I.

Characteristics of the heating of pitch coke oven benches under the conditions of an operation plant. Koks i khim. no.1:34-36 '63.
(MIRA 16:2)

1. Koksokhimstantsiya. (Coke ovens)

BORISOV, V.I.

Temperature distribution along the heating walls of type GPK-49
pitch coke ovens. Koks i khim. no.8:31-34 '63. (MIRA 16:9)

1. Koksokhinstantsiya.

(Coke ovens)

KUPERMAN, P.I.; GRYAZNOV, N.S.; MOCHALOV, V.V.; FROLOV, V.V.; MUSTAFIN, F.A.;
PUSHKASH, I.I.; SLAVGORODSKIY, M.V.; LAZAREV, B.L.; BORISOV, V.I.;
Prinimali uchastiye: CHERKASOV, N.Kh.; ZABRODSKIY, M.P.; RYTCHENKO,
A.I.; RUTKOVSKAYA, Ye.N.; SAITBURGANOVA, N.I.; SHTAGER, A.A.;
SHISHLOVA, T.I.; BUDOL', Z.P.; MEN'SHIKOVA, R.I.; GORELOV, L.A.;
AGARKOVA, M.M.; KOUROV, V.Ya.; KOGAN, L.A.; BEZDVERNIY, G.N.;
POKROVSKIY, B.I.

Effect of the lengthening of the coking time on the coke quality and
testing of coke in the blast furnace process. Koks i khim. no.9:
23-28 '63. (MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Gryaznov,
Mochalov, Kogan, Bezdvernyy, Pokrovskiy). 2. Ural'skiy institut
chernykh metallov (for Frolov). 3. Nizhne-Tagil'skiy
metallurgicheskiy kombinat (for Mustafin, Pushkash, Slavgorodskiy,
Lazarev, Cherkasov, Zabrodskiy, Rytchenko, Rutkovskaya,
Saitburganova, Shtager, Shishlova, Budol', Men'shikova).
4. Koksokhimstantsiya (for Borisov, Gorelov, Agarkova, Kourov).
(Coke--Testing)

KIRILYUK, Ye.V.; BORISOV, V.I.; KLIMENKO, N.A.; MAROCHEK, Ye.I.

Results of the use of nutrient media from the meat and stomachs of sea animals of the Far East sea basin for the determination of the pathogenicity of diphtheria bacteria. Trudy VladIEMG no.2:247-248 '62. (MIRA 18:3)

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigiyeny; Tikhookeanskogo nauchno-issledovatel'skogo instituta rybnogo khozyaystva i okeanografii i Vladivostokskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.

BORISOV, V.I.; PANASEVICH, I.S.; KULAYEV, A.N.

Characteristics of the wear of self-sharpening plowshares. Trakt.
i sel'khoz mash. no.3:16-17 Mr '65. (MIRA 18:5)

1. Gor'kovskiy sel'skokhozyaystvennyy institut.

KOZLOV, V.A.; FRISTAY, Ya.P.; BORISOV, V.K.

Differences of hematological changes in acute forms of appendicitis
in years of maximal and minimal solar activity. Nek. vop. klim. i
kraev. pat. no.3:41-45 '63. (MIRA 18:10)

AUTHORS:

Borisov, V. L., Lepeshinskaya, V. N.

48-28 5-3/22

TITLE:

The Secondary Emission Properties of the Magnesium and Beryllium-Alloy Emitters After Short Activation (Vtorichno-emissionnyye svoystva magniyevykh i berilliyevykh splavnykh emitterov posle kratkovremennoy aktivirovki) (Data From the VIIIth All-Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957) (Materialy VIII Vsesoyuznogo soveshchaniya po katorodnoy elektronike, Leningrad, 17-24 oktyabrya 1957 g.)

PERIODICAL:

Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1958
Vol. 22, Nr 5, pp.534-545 (USSR)

ABSTRACT:

Because of the high values of the coefficient of the secondary electron emission of the mentioned alloys they more and more are used in photoelectronic multipliers and in electric valves with a secondary emission. A bibliography (R fs 1-9) on their production and properties is given. The activated samples must be in a position to stand a long exposure to air and must recover their properties after an easy and simple reactivation. In this work investigations of the secondary emission properties of emitters are discussed, which were activated under conditions meeting the enumerated requirements. It was: Cu-Al-Mg (95.6, 1.5), Cu-Si-Mg, Cu, Al, Be (97.5, 0.5, 2%) and Cu-Be (98.2%). This select-

Card 1/3

The Secondary Emission Properties of the Magnesium- and Beryllium-Alloy Emitters After Short Activation. (Data From the VIIIth All-Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957) 48-22-5-8/22

ion was dictated by practical demands. The authors came to the following conclusions: 1) The activation method, worked out by them of several alloyed emitters reduces the duration of working to from 8-10 minutes. The special oxidizing environment can be omitted, as the whole process takes place in the "residual gases" of the apparatus. The highest attainable coefficient of the secondary electron emission is equal to 9-13; at $V_p = 100 \text{ V}$ $\delta = 3.2-3.6$ for Cu-Mg-alloys and 3.5-4.0 for Cu-Be-alloys. Also for the reactivation of the Cu-Mg-emitters that have become weaker in the air, the described method gives a relatively simple possibility. The temperature coefficient has proved to be negative and equal to from -0.02 to 0.03% per degree. The character of the $\delta(V_p)$ -curves was investigated, finally the functions were ascertained of the secondary current dependent on the collector potential and the distribution curves of the secondary electrons according to the energies for all examined alloys. N. N. Khristoforov and T. A. Kuz'mina took part in the work. In the discussion on the abstract I. M. Bronshteyn, A. I. Pyatnitskiy, D. B. Diatropov, V. A. Astrin, N. A. Yasnopol'skiy,

Card 2/3

The Secondary Emission Properties of the Magnesium- and Beryllium-Alloy Emitters After Short Activation. (Data From the VIIIth All-Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957) 48-22-5-8/22

Yaskovskaya, G. S. Vil'dgrube, I. N. Dobretsov, N. K. Danilenko, V. M. Lovtsov and the first author participated. There are 11 figures, 1 table, and 14 references, 5 of which are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskii institut im. M. I. Kalinina (Leningrad, Polytechnical Institute imeni M. I. Kalinin)

1. Secondary emitters--Properties
2. Secondary emitters--Performance
3. Secondary emitters--Applications
4. Magnesium alloys--Effectiveness
5. Beryllium alloys--Effectiveness

Card 3/3

9. 3120 (1003, 1137, 1140)

21033

S/058/61/000/005/037/050
A001/A101

AUTHORS: Lepeshinskaya, V.N., Borisov, V.L., Zakrevskiy, V.A.

TITLE: The dependence of the coefficient of secondary electron emission on the incidence angle of primary electrons

PERIODICAL: Referativnyy zhurnal, Fizika, no. 5, 1961, 323, abstract 5Zh15
("Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t", 1960, no 3, 79 - 83)

TEXT: The authors derived the expression for the coefficient of secondary electron emission σ depending on the incidence angle of primary electrons φ under the following assumptions: 1) the path of primary electrons in a solid is rectilinear; 2) the number of excited electrons is proportional to the energy lost by the primary electron; 3) the relation between the range of the primary electron in a solid and its energy is linear; 4) distribution of secondary electrons in the spot of their origination is isotropic; 5) secondary electrons in a solid do not suffer scattering; 6) absorption of secondary electrons proceeds according to an exponential law; 7) probability of escape of the secondary electron which

Card 1/2

21033

The dependence of the coefficient ...

S/058/61/000/005/037/050
A001/A101

reached the surface does not depend on its energy. The course of the theoretical curve $\sigma(\varphi)$ agrees satisfactorily with the course of the experimental relation for alloy CuBe plotted according to data of H. Salow ("Phys. Z.", 1940, v 41, 434). There are 18 references.

[Abstracter's note: Complete translation.]

Card 2/2

21586

9.3/20 (1003,1137,1140)
№.2340

S/109/60/005/010/009/031
E033/E415

AUTHORS: Lepeshinskaya, V.N., Borisov, V.L. and
Perchanok, T.M.

TITLE: Secondary-Emission Characteristics of Effective
Emitters on an Alloy Base Over a Wide Range of Primary
Electron Energies

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10,
pp.1636-1642

TEXT: This paper was presented at the 9th All-Union Conference
on Cathode Electronics, Moscow, October 1959.

The processes of diffusion and oxidation occurring during the
formation of effective emitters on CuAlMg and CuBe alloys are
examined, mainly on the basis of existing literature, to obtain a
rational selection of activation conditions. Then the article
gives the statistical results of measuring the secondary electron
emission coefficient σ and the coefficient of non-elastic
electron reflection η in the medium-energy (200 to 2000 ev) and
high-energy (2 to 30 kev) primary-electron energy ranges. Non-
elastic reflection electrons are those with energies exceeding
Card 1/4

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S/109/60/005/010/009/031
E033/E415

Secondary-Emission ...

50 ev. Graphs of $\sigma(E_p)$ and $\eta(E_p)$ (E_p being the primary electron energy) are plotted. With medium-energy primary electrons σ_{\max} varies from 10 to 15 and occurs in the region of 600 to 1000 ev. The value of η is approximately constant at 15 to 16% for MgO film and at 12 to 13% for BeO film, formed on the corresponding alloys. Curves are also given for the region $E_p = 0.5$ to 30 kev. Then σ for normally activated CuAlMg alloy has a maximum in the region $E_p = 1.3$ kev after which it falls sharply. η is approximately constant up to 2.5 kev and then it increases to approximately 30% with increase of E_p . When $E_p = E_p^*$ (about 20 kev) η has its value for the base material. Thus the thickness of the activated film can be estimated from the $\eta(E_p)$ curve and the values obtained (400 to 700 Å) coincide approximately with those obtained by calculations based on the activation conditions. The curves $\sigma(E_p)$ and $\eta(E_p)$ were obtained for samples having four different film thicknesses (obtained by activation times of 1, 10, 20 and 60 min) and the lower limit to the effective depth of the output of slow secondary electrons was obtained. For MgO it was approximately 500 Å. Finally, it was found that the energy spectrum of the

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21586

Secondary-Emission

S/109/60/005/010/009/031
E033/E415

secondary electrons does not depend on the value of E_p in the range 1 to 16 kev. The results are summarized in the table which compares the calculated thicknesses of the MgO film based on CuAlMg (93% Cu, 6% Al, 1% Mg) for different activation times. The activation temperature was 600°C, the CO₂ pressure was 0.1 mm Hg. Acknowledgments are expressed to G.B. Stuchinskiy for his assistance. There are 4 figures, 1 table and 15 references: 6 Soviet and 9 non-Soviet. X

SUBMITTED: December 21, 1959

Card 3/4

21586

X

S/109/60/005/010/009/031
E033/E415

Secondary-Emission ...

① Время активации, мин	② Толщина слоя MgO, Å			⑦ σ_{max}	⑧ E _{p max} ev	⑨ E _p keV
	③ рассчитанная по					
	④ диффузии	⑤ окислению	⑥ данным η			
1	180	—	225	10,2	700	1,3
3	310	180	300	11,3	800	1,6
5	400	300	350	12,1	900	1,8
10	560	600	490	13,1	1000	2,3
15	690	900	820	13,0	1100	3,4
20	800	1200	—	12,5	1300	—
60	1380	—	1300	8,5	1300	4,3

1 - Activation time (min). 2 - Thickness of the MgO layer Å.
 3 - calculated by. 4 - diffusion. 5 - oxidation. 6 - η.
 7 - σ_{max} . 8 - E_{p max} ev. 9 - E_p keV.

Card 4/4

21587

S/109/60/005/010/010/031
E033/E415

9.3120 (1003, 1137, 1140)
26.2340

AUTHORS: Borisov, V.L., Perchanok, T.M. and Lepeshinskaya, V.N.
TITLE: Angular and Temperature Dependences of the Secondary
Emission Coefficient σ and of the Coefficient of
Non-Elastic Electron Reflection η of Activated Alloy-
Type Emitters

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10,
pp.1643-1649

TEXT: This paper was presented at the 9th All-Union Conference
on Cathode Electronics, Moscow, October 1959.

The use of alloy-type emitters in "dynode" particle multipliers
demands information on the physical processes occurring in such
emitters in different temperature ranges, in particular in the
range -60 to -70°C. This information is partly obtainable by
investigation of the manner in which the secondary-emission
coefficient σ and the non-elastic reflection coefficient η
depend on temperature and on the angle of incidence φ of the
primary electrons. The article is in three sections, viz
investigation of (1) the temperature dependence of σ ;
(2) dependence of σ and η on the angle of incidence of the
Card 1/4

21586

S/109/60/005/010/010/031
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Angular and Temperature ...

primary electrons; (3) the "outflight" angular distribution of secondary electrons. In the first section, after a description of the apparatus and the method of investigation, the results are shown graphically by a series of curves of $\sigma(V_p)$ (V_p is the primary electron voltage) for temperatures $T = -70, 20, 200, 300^\circ\text{C}$. For comparison, a graph of σ_T/σ_{20} , calculated according to Dekker's theory (Ref.1), is also given. With increase of temperature, σ decreases over the whole range of V_p but the change is smaller in the region of low primary-electron energies. The experimental results support Dekker's theory and consequently justify his assumptions that interaction of slow electrons with the dielectric lattice plays a fundamental role in the energy loss of these electrons, and that there is in fact a film of MgO on the surface of the activated CuAlMg alloy. In the second section, the apparatus is briefly described. Activated alloys of CuAlMg and CuBe at 350 and 450°C respectively at the instant the measurements were taken were investigated. Three groups of emitters were studied: (1) CuAlMg with a thick layer of MgO with a rough surface finish. (2) CuAlMg and CuBe with thin layers of

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MgO and BeO with a rough surface; (3) CuBe with a mechanically polished surface. The results are presented graphically by plotting $\sigma_{\varphi}/\sigma_0 = f(\varphi)$ for different values of primary electron energies ($V_p = 400, 800, 1200, 1500$ and 2000 V). For all three groups the following conclusions were drawn: $\sigma_{\varphi}/\sigma_0$ is large with large values of φ ; $\sigma_{\varphi}/\sigma_0$ increases with increase of V_p ; $\sigma_{\varphi}/\sigma_0$ is independent of angle for V_p less than 200 V. The degree of dependence on φ is greatly affected by the surface finish. η/η_0 increases with φ and also with the energy of the primary electrons. The angular dependence $\sigma(\varphi)$ is explained on the basis of the simultaneous action of three factors: (1) change in the conditions of formation of secondary electrons as the angle of incidence of the primary-electron beam is altered, (2) the angular dependence of η , (3) the micro-finish of the surface. In the third section, the apparatus for investigation of the angular distribution of secondary electrons is described and illustrated. The polar diagrams (for $T = 400^{\circ}\text{C}$) for activated CuAlMg are produced. The polar diagrams show the distribution of secondary electrons and the distribution of reflected electrons for normal incidence and for 20° angle of

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incidence. The diagrams relate to $V_p = 500$ V but the same general shape holds for from 50 to 500 V. The distribution conforms to a cosine law. Finally, the maximum of the energy distribution of the secondary electrons does not depend on the angle of incidence. This confirms the work of Gornyy (Ref.12) but is in opposition to the results obtained by Frumin and Kushnir (Ref.11). Acknowledgments are expressed to V.A.Zakrevskiy, G.V.Lomakin and G.N.Chizhukhin who participated in this work. There are 6 figures and 12 references: 9 Soviet and 3 non-Soviet.

SUBMITTED: December 21, 1959

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BORISOV, V.L., inzh.

Steam-jet compressor for the utilization of heat of the
labyrinth turbine steam. Bum.prom. 35 no.7:20-21
Ja '60. (MIRA 13:8)

1. Balakhininskiy tsellyulozno-bumashnyy kombinat.
(Compressors) (Waste heat)

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S/181/62/004/001/042/052
B111/B104

9.4/30 (1138, 2605, 1140)

AUTHORS: Alekseyev, V. A., and Borisov, V. L.

TITLE: Angular distribution of secondary electrons for an MgO power emitter on the basis of a Cu - Al - Mg alloy

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 265 - 271

TEXT: The angular distribution of groups of true secondary electrons and of groups of elastically and inelastically reflected electrons was studied for incident electron energies $E_p = 150, 400$ and 800 ev, and for angles of incidence ranging from 0 to 30° . The measuring arrangement included two concentric, evacuated copper spheres with parallel slits. The sample, which had the same potential as the internal sphere, was located at the center. The secondary electrons traversed the slits and incided on a movable collector. The electron current was statically measured with an electrometer. If several retarding potentials are applied in the interior, one obtains the angular distribution for different electron energies. The angular distribution was measured for angles of incidence ranging from
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0 - 30° at primary electron energies of 150, 400, and 800 ev. The secondary electron current, recorded by a beam catcher, lay between 10^{-11} and 10^{-12} a. Volt-ampere characteristics for different angles of emission are presented along with four rather similar polar diagrams of the angular distribution of true secondary electrons as a function of the primary electron energy, of the temperature, and of the degree of activation. In general, certain maxima appear at low temperatures, which are independent of the primary electron energy (N. B. Gornyy, ZhETF, 31, 3(9), 1956) and vanish at higher temperatures. The curves can then be approximated with cosine functions. Of particular importance to the collisions of secondaries with the lattice is the fact that the temperature dependence of the emission coefficient for secondary electrons is consistent with A. Dekker's theory (Ref. 5, see below). Summing up: (1) At 400°C the angular distribution of true secondary electrons can be approximated with a cosine law. It is virtually independent of the angle of incidence, and depends only slightly on E_p and on the degree of activation; (2) the angular distribution of elastically and inelastically reflected electrons

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can be represented by a prolate line, the greatest diameter of which coincides with the direction of incidence. The prolate line sharpens ever more with increasing E_p ; (3) the maxima of slow secondaries for the various angles do not vary with varying energy. Docent V.N. Lepeshinskaya is thanked for placing her laboratory at the authors' disposal. There are 6 figures and 8 references: 3 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: J. L. H. Jonker, Phil. Res. Rep., 8, no. 6, 434, 1953; A. Dekker, Phys. Rev., 94, 1179, 1954; J. Burns, Phys. Rev., 119, no. 1, 102, 1960; J. L. H. Jonker, Phil. Res. Rep., 12, 249, 1957.

SUBMITTED: June 14, 1961 (initially)
September 6, 1961 (after revision)

X

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39984

S/181/62/004/008/029/041
B108/B102

9.3/90

AUTHOR: Borisov, V. L.

TITLE: Secondary electron emission from magnesium oxide

PERIODICAL: Fizika tverdogo tela, v. 4, no. 8, 1962, 2253 - 2257

TEXT: Secondary electron emission from thick magnesium oxide layers upon W or Ta was studied at room temperature in vacuo with a pulse method at primary electron energies of 2 - 2000 ev. A common denominator characterizing the effect of various thermal treatments upon the coefficient σ of secondary electron emission could not be found. The changes in σ cannot be related directly to changes in volume electrical conductivity. Such a relationship, if there is any at all, will be masked by stronger factors. The surface condition, in particular the work function, of the specimens has a strong and possibly lawful effect upon σ . σ decreases with increasing work function. There are 6 figures.

ASSOCIATION: Leningradskiy politekhnicheskij institut im. M. I. Kalinina
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

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Secondary electron emission ...

S/181/62/004/008/029/041
B108/B102

SUBMITTED: February 12, 1962 (initially), February 12, 1962 (revised) ←
April 20, 1962 (after revision)

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BORISOV, V.I.

Effect of the backing material on the secondary emission from
MgO films. Fiz.tver.tela 4 no.10:2738-2740 O '62. (MIRA 15:12)

1. Leningradskiy politekhnicheskij institut imeni M.I.Kalinina.
(Secondary electron emission)
(Magnesia)