Card 2/2

ACCESSION NR: AP4022908                    S/0119/64/000/003/0029/0029

AUTHOR: Berman, N. R. (Engineer)

TITLE: Second All-Union Scientific and Technical Conference on Microconductors and Resistors

SOURCE: Priborostroyeniye, no. 3, 1964, 29

TOPIC TAGS: microconductor, resistor, scientific and technical conference, resistance alloy, superfine wire, glass insulated superfine wire

ABSTRACT: The Second All-Union Scientific and Technical Conference on Microconductors and Resistors took place, October 22-24, 1963, in Kishinev. It was organized by the Central Board of NTO Priborprom, the MSSR Coordinating Committee on Scientific-Research Work, and the Moldavian NTO Priborprom. The conference attracted 190 representatives of 70 organizations and institutes from 20 cities. The principal reports were: "Microconductors and resistors,"

Card 1/2

ACCESSION NR: AP4022908

by Z. I. Zelikovskiy; "Microconductors from resistance alloys," by Ye. Ya.
Badinter; and "Reliability of microconductor resistors," by V. P. Tsetens. A
total of 57 reports was delivered on these topics: fine and superfine glass-
insulated wire casting by Professor A. V. Ulitovskiy's method; development of
resistors and resistance devices based on microconductors; microconductor
production methods and equipment; horizontal-filament method for electrophysical
investigation of microconductors; a-c resistors; resistance boxes and high-
resistance bridges; development of semiautomatic microconductor winding
machines, etc. The Conference has demonstrated that (1) microconductor
devices are very important, and (2) the investigation of physical processes of
casting has been insufficient to date. Orig. art. has: no figure, formula, or table.

ASSOCIATION: none

SUBMITTED: 00            DATE ACQ: 08Apr64            ENCL: 00

SUB CODE: GE, IE         NO REF SOV: 000              OTHER: 000

Card 2/2

L 24053-66     EWT(l)/EWA(h)

ACC NR: AP6012705                    SOURCE CODE: UR/0119/66/000/004/0027/0028

AUTHOR: Berman, N. R. (Engineer)

ORG: none

TITLE: Microconductors and resistors [Reports at the 3rd All-Union Conference on Microconductors and Resistors, 16-19 Nov65, Kishinev]

SOURCE: Priborostroyeniye, no. 4, 1966, 27-28

TOPIC TAGS: microconductor, microresistor, microelectronics, conductor, resistor

ABSTRACT: Proceedings at the Conference where 234 representatives of 93 organizations (of 24 cities) took place are briefly reported. After introductory remarks by Z. I. Zelikovskiy, these reports were delivered: "Problems of automation of casting microconductors" by V. I. Zaborovskiy and L. P. Menchikov; "Principal studies of properties of cast microconductors" by Ye. Ya. Badinter; "Microconductor mechanics" by V. S. Lenskiy; "Use of resistors from cast microconductor in instruments and electronic equipment" by Z. I. Zelikovskiy; "Peculiarities of and improvements in the industrial production of cast-microconductor resistors" by A. I. Savenkov and Yu. I. Avvakumov. Several reports were devoted to the Prof. A. V. Ulitovskiy method of casting microconductors in vitrious insulation. Other reports set forth the theory of microconductor casting developed by the Institute of Mathematics, AN MoldSSR and the Kishinev Scientific Research Electrotechnical Institute.

Card 1/1     SUB CODE: 09 / SUBM DATE: none

BERMAN, P.

Flight in a suspended state. Znan. sila 33 no.8:7 Ag '58.   (MIRA 11:11)
(Vehicles)

BERMAN, P.M.; DAVIDOVICH, P.Ya.

Take into account characteristics of the construction of pipelines in determining the annual standards of machine utilization. Stroi. truboprov. 10 no.9:36 S '65.                (MIRA 18:9)

1. Spetsial'noye konstruktorskoye byuro "Gazstroymashina" (for Berman). 2. Trest Soyuzprovodmekhanizatsiya (for Davidovich).

BERMAN, P.S. (Moskva)

Plant protein.  Priroda 50 no. 3:98-100 Mr '61.    (MIRA 14:2)
(Proteins)

BERMAN, P.S. (Moskva)

Proteinless feeding of cows.  Priroda 53 no. 11:70-71 '64.
(MIRA 18:1)

KANTOR, Z.M., dots.; BERMAN, R.A.

Case of eventration in a true embryonal hernia. Ped., akush. i gin.
19  no.3:63-64 '57.                                         (MIRA 13:1)

1. Khirurgicheskaya klinika kafedry khirurgii (ispolnyayushchiy
obyazannosti zavkafedroy - dots. Z.M. Kantor) Kiyevskogo instituta
usovershenstvovaniya vrachey (direktor - prof. I.I. Kal'chenko) na
baze 1-y gorodskoy bol'nitsy Pecherskogo rayona g. Kiyeva.
                        (HERNIA)

ARONSON, V.Ye.; BALASHOV, Ye.T.; BERMAN, S.A.; BYZER, B.I.; KALININ, N.A.;
MAKHONIN, A.K.; IMASHEV, N.U.; TOKAREV, V.P.

Plans for commercial prospecting for the Zhetybay and Uzen'
deposits. Trudy VNIGRI no.218:62-73 '63.   (MIRA 17:3)

BERMAN, S.A.

Technical information service in the scientific research institute.
Trudy Bash NIINP no.5:298-306 '62.                    (MIRA 17:10)

FRIMAN, Sh. A.

FRIMAN, Sh. A.: "The physiological preparations of young carp for their first
     winter." Min Higher Education USSR. Latvian State U. Riga, 1956.
     (Dissertation for the Degree of Candidate in Biological Science.)

Knizhnaya letopis', No. 30, 1956. Moscow.

BERMAN, Sh. [Bermane, S.]

Antibiotics and feeding of ducklings. Vestis Latv ak no.8:115-120
'60.                                                (EEAI 10:9)

(Ducks)    (Antibiotics)

HERMANIS, S., kand. biolog. nauk; SMITS, J., agronom; DIMDINS, J., red.; CAKSS, J., tekhn. red.

[Intensive carp and duck raising] Intensiva karpu un pilu audzesana. Riga, Latvijas Valsts izdevnieciba, 1961. 63 p.
(MIRA 15:3)

(Latvia—Carp)          (Latvia—Ducks)

BERMANN, Sh. A-

Research on significance of antibiotics in the nourishment of carp. Vestis Latv ak no.3:151-154 '60.     (EEAI 10:7)

1. Latvijas PSR Zinatnu akademija, Biologijas instituts.
    (Antibiotics)   (Carp)

BERMAN, S.A.

Equipment designed by the Bashkirian Scientific Research
Institute for Petroleum Refining as shown at various industrial
exhibitions.   Trudy BashNII NP no.6:293-296   '63.

(MIRA 17:5)

BERMAN, S. D.                                        PA 245T68

USSR/Mathematics - Finite Groups        11 Oct 52

"Theory of Representations of Finite Groups,"
S. D. Berman

"Dok Ak Nauk SSSR" Vol 86, No 5, pp 885-888

Solves problem of number of irreducible represen-
tations of a finite group over an arbitrary field
K whose character does not divide the order of
the group or the power of its absolutely ir-
reducible representations. Acknowledges advice
of Ya. B. Lopatinskiy, Corr Mem, Acad Sci Ukrain-
ian SSR, and I. R. Shafarevich, Doc Phys-Math
Sci. Submitted by Acad 0. Yu. Shmidt 9 Aug 52.

                                        245T68

BERMAN, S. D.

Berman, S. D. On certain properties of integral group rings. Doklady Akad. Nauk SSSR (N.S.) 91, 7–9 (1953). (Russian)

The author studies the group algebra $R$, over the ring of rational integers, of a group $G$ of finite order $n$. An element $u \in R$ is called normal if $uu^* = u^*u$ ($u \to u^*$ being the canonical involution of $R$). An element $u \in R$ such that $u^t = \pm 1$ for some rational integer $t > 0$ is called a root of unity, and the smallest such $t$ is called the order of $u$; the elements of $\pm G$ are obviously normal roots of unity. Theorem 1. Every normal root of unity in $R$ belongs to $\pm G$. Theorem 2. The order of a root of unity in $R$ divides $n$. Theorem 3. $R$ fails to contain a nilpotent element if and only if $G$ is abelian or is hamiltonian of order $2^m t$, where 2 belongs to an odd exponent modulo $t$. Theorem 4. The following three conditions are equivalent. I. Every root of unity of $R$ belongs to $\pm G$. II. Every element of $R$ is normal. III. $G$ is abelian, or is hamiltonian of order power of 2.

E. R. Kolchin (New York, N. Y.).

BERMAN, S. D.

USSR/Mathematics - Rings                    11 Jul 53

"Isomorphism of the Centers of Group Rings of p-Groups," S. D. Berman, Uzhgorod State Univ

DAN SSSR, Vol 91, No 2, pp 185-187

Demonstrates the necessary and sufficient condition for the isomorphism of the centers of group rings $R(G,K)$ (over a field K) of p-groups (p not 2). Uses here the concept of K-division of a group, introduced by the author (ibid. Vol 86, No 5 (1952)). States that the following problem is unsolved: Given group G and field K, find all groups

276T69

H for which $R(G,K) \cong R(H,K)$. States that S. Perlis and G. L. Walker (Trans Am Math Soc. 68, No 3, 420 (1950)) partially solved it. Acknowledges advice of Ya. B. Lopatinskiy, Corr-Mem Acad Sci Ukr SSR, and I. R. Shafarevich, Dr Phys-Math Sci. Presented by Academician O. Yu. Shmidt 21 Apr 53.

BERMAN, S. D.

USSR/Mathematics - Abelian groups

Card    1/1    :    Pub. 22 - 2/41

Authors    :    Berman, S. D.

Title    :    About expressions of the semi-direct product of Abelian groups

Periodical    :    Dok. AN SSSR 98/2, 177-180, Sep 11, 1954

Abstract    :    Construction of a complete system of orthogonal minimal idempotents and of idempotents of a center is given. The construction is accomplished on the base of a semi-direct product of Abelian groups. Definition of the semi-direct product is given. One reference (1947).

Institution    :    Uzhgorodskiy State University

Presented by    :    Academician P. S. Alexandroff, June 11, 1954

BERMAN, S.D.

Equation $x^m = 1$ in an integer group-ring. Ukr.mat.zhur. 7 no.3:
253-261 '55.                                                    (MLRA 9:2)
                        (Groups, Theory of)

*BERMAN, S. D.*

USSR/ Mathematics - Group algebras

Card  1/1    Pub. 22 - 2/62

Authors   : Berman, S. D.

Title     : Group algebras of the Abelian expansions of finite groups

Periodical : Dok. AN SSSR 102/3, 431 - 434, May 21, 1955

Abstract   : A method is shown for the construction of a complete system of the minimum
idempotents of a center and, assuming that G/H is cyclic, a complete sys-
tem of orthogonal (in pairs) minimum idempotents of K(G,K), provided that
such systems are known to the R(G,K) and R(H,K). The G is a finite group
being assumingly an Abelian expansion of the group H; the K is an alge-
braically closed field the characteristics of which do not divide the or-
der of G: the R(G,K) and R(H,K) are the group algebras of the G and H groups
over the field K, respectively. Five references: 2 U.A and 3 USSR (1927-
1954).

Institution : The State University, Uzh-Gorod

Presented by: Academician P. S. Aleksandrov, Jan 20, 1955

BERMAN, S.D

| | | | |
|---|---|---|---|
| SUBJECT | USSR/MATHEMATHICS/Algebra | CARD 1/1 | PG-71 |
| AUTHOR | BERMAN S.D. | | |
| TITLE | The p-adic ring of the characters. | | |
| PERIODICAL | Doklady Akad. Nauk 106, 583-586 (1956) | | |
| | reviewed 6/1956 | | |

The principal results of P.Roquette (J.reine angew. Math. 190, 148-168 (1952))
and R.Brauer (Ann.Math. Princeton, II.s. 48, 502-514 (1947)) on the ring of
the absolute irreducible characters of a finite group are generalized by the
author to the ring of characters which correspond to the irreducible re-
presentations in a given field K of the characteristic 0. There the notion
of the K-konjugate elements introduced by the author in an earlier paper
(Doklady Akad. Nauk 86, 885-888 (1952)) plays an essential part.

BERMAN, J.

$K$ is equal to the number of classes of $\Lambda$-conjugate $\Lambda$-regular elements in $G$. The author proves this result by means of some results obtained earlier about $p$-adic character rings (same Dokl. (N.S.) 10 (1956), 583-586; MR 17, 1052). Remark: For a proof of the above theorem see also E. Witt, J. Reine Angew. Math. 190 (1952), 231-

BERMAN, S.D.

Generalized characters of finite groups.  Dop. AN URSR no.2:
112-115 '57.                      (MLRA $10:5$)

1. Uzhgorods'kiy derzhavniy universitet. Predstaviv akademik
AN URSR B.V. Gnyedenko.
          (Groups, Theory of)

BERMAN, S. D.

21-6-2/22

AUTHOR:        Berman, S.D.

TITLE:         Groups of which All Representations are Monomial (Gruppy, vse predstavleniya kotorykh monomial'ny)

PERIODICAL:    Dopovidi Akademii Nauk Ukrains'koi RSR, 1957, No 6, pp 539-542 (USSR)

ABSTRACT:      The paper deals with a finite order group G and an algebraic closed field k whose characteristics does not divide the order of G. Moreover, the following designations are used:
K is an arbitrary subfield of the field k;
R (G, K) is the group algebra of the group G over the field K. The author determines necessary and sufficient conditions to be satisfied by the subgroup N $\trianglelefteq$ G whose linear character induces the irreducible representation of the group G over the field k. The number of irreducible monomial representations of the group G over the field k is determined, and conditions are found which are necessary and sufficient to make all representations of G over the field K monomial. Under assumption that G and H are groups whose all representations are monomial, the author defines the conditions of isomorphism of algebras R (G, k), R (H, k), R (G, K) and R (H, K) and the conditions of isomorphism of the centers of algebras R (G,K)

Card 1/2

Groups of which All Representations are Monomial                     21-6-2/22

           and R (H, K) where K is a field of positive characteristic.
           There are 3 non-Slavic references.

ASSOCIATION:  Uzhgorod State University (Uzhhorods'kyy derzhavnyy universytet)

PRESENTED:   By B.V. Gnedenko (Hnyedenko), Member of the AN Ukrainian SSR

SUBMITTED:   15 February 1957

AVAILABLE:   Library of Congress

Card 2/2

BERMAN, S. D.

AUTHOR:    BERMAN S.D., LYUBIMOV V.V.                    42-5-5/17

TITLE:    Groups Admitting an Arbitrary Displacement of the Factors of
          Their Composition Series (Gruppy dopuskayushchiye lyubuju
          perestanovku faktorov kompozitsionnogo ryada)

ABSTRACT:  Let G be a group with a composition series of the length s; let

(1)              $\Gamma_1, \Gamma_2, \ldots, \Gamma_s$

be the factors of this composition series. G admits an arbitrary
displacement of the factors of the composition series if to an
arbitrary permutation $\Gamma_{i_1}, \Gamma_{i_2}, \ldots, \Gamma_{i_s}$ of the factors (1) there

corresponds a composition series $G = G_1 \supset \ldots \supset G_{s+1} = 1$ such

that $G_j/G_{j+1} \cong \Gamma_{i_j}$ $(j=1,\ldots,s)$. A group with a composition series

all the factors of which are isomorphic to the same simple group $\Gamma$
is called a $\Gamma$-group.
Theorem: The group G with a composition series admits an arbitrary
displacement of the factors of the composition series then and
only then if it can be represented as a direct product of $\Gamma$-groups.

Card 1/2

Groups Admitting an Arbitrary Displacement of the Factors of    42-5-5/17
Their Composition Series

Let $\mathfrak{M} = \{ \Gamma_1, \ldots, \Gamma_k \}$ be a finite set of pairwise not isomorphic simple groups. A group with a composition series is called an $\mathfrak{M}$-group if the set of the different factors of the composition series is identical with $\mathfrak{M}$.

Theorem: Let G be an $\mathfrak{M}$-group and let $\mathfrak{M}_1, \ldots, \mathfrak{M}_r$ be subsets of $\mathfrak{M}$ ($\bigcup_{i=1}^{r} \mathfrak{M}_r = \mathfrak{M}$) being pairwise free of common elements.

The composition series of G admits an arbitrary displacement of the subsets $\mathfrak{M}_1, \ldots, \mathfrak{M}_r$ then and only then if G is a direct product of the $\mathfrak{M}_i$-groups $(i=1, \ldots, r)$.

One Soviet reference is quoted.

SUBMITTED:   October 15, 1956
AVAILABLE:   Library of Congress

1. Groups (Mathematics)-Theory

Card 2/2

BERMAN, S.D.

Representations of groups of the order $2^m$ over an arbitrary field
of zero characteristics [with summary in English]. Dop. AN URSR
no.3:243-246 '58.                                              (MIRA 11:5)

1.Uzhgorodskiy derzhavniy universitet. Predstavleno akademikom B.V.
Gnedenko [B.V. Hniedenko].
                      (Groups, Theory of)

HERMAN, S.D.; BOVDI, A.A.

P-Block for a class of finite groups. Dop. AN URSR no.6:606-608
'58.                                                        (MIRA 11:9)

1.Uzhgorodskiy gosudarstvennyy universitet. Predstavil akademik AN
USSR B.V. Gnedenko [B.V. Hnedienko].
                        (Groups, Theory of)

AUTHOR:      Berman, S.D. (Uzhgorod)                          39-44-4-1/5

TITLE:       Characters of Linear Representations of Finite Groups Over
             Arbitrary Fields (Kharaktery lineynykh predstavleniy konech-
             nykh grupp nad proizvol'nym polem)

PERIODICAL:  Matematicheskiy Sbornik, 1958, Vol 44, Nr 4, pp 409-456 (USSR)

ABSTRACT:    The paper is a partial generalization of results formerly an-
             nounced by the author [Ref 8,9,10] and contains the proofs for
             these results. Several new notions are defined. § 1. Let G be
             a finite group, K' a field the characteristic of which does
             not divide the order of G. A one-to-one mapping $\varphi$ of G onto
             G is called an S-mapping, if the function $\chi_i(\varphi(g))$, where

             $\chi_i(g)$ (i=1,...s) is an arbitrary character, is        an ab-

             solutely irreducible character. The class of the S-mapping
             consists of such one-to-one mappings which transfer the
             classes of conjugate elements into each other and thereby in-
             duce an automorphism of the algebra of these classes. Let $\phi$
             be a group of the S-mappings of G. As a $\phi$-character of G the
             sum of the different characters is denoted which are obtained
             from the absolutely irreducible character $\chi$ by the effect of

Card 1/3

Characters of Linear Representations of Finite Groups        39-44-4-1/5

all transformations from $\phi$ . For the $\phi$-characters relations are given which generalize the classical relations between absolutely irreducible characters. The elements $c^{-1}\varphi(a)c$ act the part of the classes of conjugate elements, where $a \in G$ is fixed, $c$ runs through the group $G$ and $\varphi$ through the subgroup $\phi$ . If $G$ is a normal subgroup of $F$ and if $\phi$ is generated by the group of the inner automorphisms of $F$, then the $\phi$-characters of $G$ are identical with the relative characters of $G$ with regard to $F$; see Frobenius [Ref 3] . With the aid of the $\phi$-characters the isomorphism of the centers of group algebra is investigated. § 2. Let the characteristic of $K'$ be zero. The characters of the linear representations of $G$ over $K'$ are denoted as $K'$-characters. Integer linear combinations of irreducible $K'$-characters are called generalized $K'$-characters. $E \leq G$ is called a $K'$-elementary subgroup, if 1.) $E$ is a semidirect product of the cyclic normal subgroup $H = (a)$ of order $h$ on the $p$-group $F$ $(p,h) = 1$ 2.) for each $g \in F$ it is $g^{-1}ag = a^{\mu}$, where $\mu$ is an integer so that the mapping $\xi \to \xi^{\mu}$ defines an automorphism of the field $K'(\xi)$ over $K'$ (it is $\xi = \sqrt[m]{1}$ , where m is the order of $G$). The two theorems of Brauer on induced representations are

Card 2/3

Characters of Linear Representations of Finite Groups          39-44-4-1/5

generalized, e.g.; Each irreducible K'-character of G can be represented as an integer linear combination of K'-characters which are induced by the irreducible K'-characters of the K'- elementary subgroups of G. It is shown that an integer ring of characters of a finite group cannot be decomposed into a direct ideal sum. The paper contains 45 theorems and lemmata, as well as a great number of definitions. The author thanks for several critical remarks of Ya.B. Lopatinskiy and I.R. Stafarevich. There are 19 references, 7 of which are Soviet, 5 German, 1 Japanese, 3 English, and 3 American.

SUBMITTED:     October 17, 1956

Card 3/3

BERMAN, S.D.

Modular representations of finite supersolvable groups.  Dop.AN
URSR  no.5:586-589  '60.                                    (MIRA 13:7)

1. Uzhgorodskiy gosudarstvennyy universitet. Predstavleno
akademikom AN USSR B.V.Gnedenko [B.V.Hniedenko].
          (Groups, Theory of)

BERMAN, S.D.

Scientific notes and problems on Schur's index.   Usp. mat. nauk 16 no.2:95-99 Mr-Ap '61.                                    (MIRA 14:5)
(Numbers, Theory of)

BERMAN, S.D.

Smallest field, in which all representations of an odd P-group
are realised. Usp.mat.nauk 16 no.3:151-153 My-Je '61.

(MIRA 14:8)

(Fields, Algebraic)   (Groups, Theory of)

BERMAN, S.D., dotsent; GUDIVOK, P.M.

Integral representations of finite groups.  Dokl. i soob.
UzhGU. Ser. fiz.-mat. i ist. nauk no.5:74-76  '62.

(MIRA 17:9)

SHAPIRO, A.P.; BERMAN, S.D., dotsent

Classes of conjugate elements of cyclic extensions of finite
groups. Dokl. i soob. UzhGU. Ser. fiz.-mat. i ist. nauk
no.5:76  '62.                                              (MIRA 17:9)

BERMAN, S.D.; GUDIVOK, P.M.

Integral representations of finite groups. Dokl.AN SSSR 145
no.6:1199-1201 Ag '62.                                    (MIRA 15:8)

1. Yahgorodskiy gosudarstvennyy universitet. Predstavleno akademikom
P.S.Novikovym.
                    (Groups, Theory of)

BERMAN, S.D.

Integral representations of finite groups.  Dokl. AN SSSR. 152
no.6:1286-1287 O '63.                              (MIRA 16:11)

1. Uzhgorodskiy gosudarstvennyy universitet.  Predstavleno
akademikom P.S. Novikovym.

BERMAN, S.D.; GUDIVOK, P.M.

Indecomposable representations of finite groups over a ring of
integral p-adic numbers.  Izv. AN SSSR. Ser. mat. 28  no. 4:875-910
Jl-Ag '64.
(MIRA 17:9)

BERMAN, S.D.

Theory of integral representations of finite groups. Dokl.
AN SSSR 157 no.3:506-508  Jl '64.                    (MIRA 17:7)

1. Uzhgorodskiy gosudarstvennyy universitet. Predstavleno
akademikom L.S. Pontryaginym.

BERMAN, S.D.

Integral monomial representations of finite groups. Usp. mat. nauk.
20 no.4:133-134 Jl-Ag '65.                                   (MIRA 18:8)

L 01998-67  EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI    IJP(c)    JD/HM/HW/JG

| | | |
|---|---|---|
| ACC NR:  AM6023685 | Monograph | UR |

Berman, Samuil Izraylevich

Beryllium copper alloys, their properties, uses and processing (Mednoberilliyevyye splavy, ikh svoystva, primeneniye i obrabotka)  Moscow, Izd-vo "Metallurgiya", 66. 0343 p. illus., biblio. Errata slip inserted.  2,390 copies printed.

TOPIC TAGS:  beryllium containing alloy, copper containing alloy, welding, soldering, metalworking, nonferrous metal alloy, metal casting, metal drawing, metal melting, metal physical property, metal stamping

PURPOSE AND COVERAGE:  This book presents information on the properties of copper-beryllium alloys and on their applications in technology.  The processes of smelting, of preliminary and complex casting, rolling, forging, pressing, and drawing of semi-finished pieces are described.  Power requirements necessary for pressure forming of these alloys are given.  Information on stamping, cutting on metal-working machines, soldering, welding, thermal treatment, and surface finishing of these alloys is also presented.  The book is intended for engineers and technicians working in scientific research institutes, factory laboratories, construction bureaus, and in shops of metallurgical factories, of the apparatus construction, of electrotechnical, and of other industries.  The book may be of use to trainees and students of technical schools specializing in metallurgical sciences, in casting, and in pressure working of metals.

UDC:  546.3-19.669.35

Card  1/2

L 01998-67

ACC NR: AM6023685                                              3

TABLE OF CONTENTS /abridged7:

SUB CODE: 11/ SUBM DATE: 13Jan65/ ORIG REF: 171/ OTH REF: 091

Card 2/2

M

Istomin, P. S., S. I. Berman, and I. L. Perlin. *The Rolling of Non-Ferrous Metals.* Volume III. (In Russian.) Pp. 488. 1933. Moscow, Leningrad, and Sverdlovsk: (Gosmetallurgizdat. (Rbl. 7.50.)

The Production of Aluminium Foil in U.S.S.R. S. I. Berman (*Legkie Metalli* (*Light Metals*), 1938, (1), 22-32).—[In Russian.] Prospects of the future development of aluminium foil production. The production of foil at the Moscow and Leningrad works is described.—D. N. R.

Istomin, P. S., and B. L. Berman. *Das Walzen von Nichteisenmetallen. Teil I. —Herst. von Blättern und Bändern aus schweren und leichten Metalle und ihren Legierungen.* [In Russian.] Pp. 535. 1934. Moscow, Leningrad, and Swerdlowsk: Gosmetallurgisdat. (Rbl. 3.25.)

B-III-2

BC

Pectic substances of sugar beets in relation to sugar manufacture. M. I. NAKHMANOVITSCH and B. I BERMAN (Nauch. Zapiski, 1936, 12, 11—27; Internat. Sugar J., 1936, 38, 255).—The riper were the beets, the less was the amount of pectin substances going into solution during the diffusion process. This, however, is very much a varietal characteristic. Under the conditions of the process of clarification by carbonatation nearly the whole of the araban formed in the juice from the pectin hydrate passed into the final molasses.

J. P. O.

ASM-SLA    METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

21

**High-Quality Metals for Non-Ferrous Products and Alloys in Foreign Countries.** R. J. Berman (*Zvet. Metally* (*Non-Ferrous Metals*), 1957, (10), 65-68).—[In Russian.] A review of recent progress in the production of high-purity copper, aluminium, and zinc.—D. R. S.

METALLURGICAL LITERATURE CLASSIFICATION

137-58-5-10046

Continuous Sequence Anneal (cont.)

after HF A. The microstructure of longitudinal and cross sections of the wire was uniform, grain size being 10-12 microns. Continuous sequence heating of brass and Cu rods was performed on an equipment for case-hardening of rolls, with a 2000-kc current. Tubes were A in a pilot-plant setup, the generator of of which produced a 2650-cps current. A roller conveyor with driven rollers was adapted to transport the tubes through the I. The experiments showed that HF anneal necessitates heating the tubes to a higher temperature than that required in ordinary A in resistance furnaces. Thus, the heating of L62 brass is to 650-760°C, while for Ni it is 850-950°. Oxidation of the surface and loss of metal in HF annealing of brass and Ni tubing is negligible.

A.B.

1. High frequency heating--Applications    2. Metals--Heat treatment

Card 2/2

AUTHORS:     Matrosova, N. S., Balakireva, Ye. P.,  SOV/64-58-4-15/20
             Berman, S. I.

TITLE:       Thermochemical Gas Analyzer of the Type TKhG-5 (Termokhimicheskiy
             gazoanalizator tipa TKhG-5)

PERIODICAL:  Khimicheskaya promyshlennost', 1958, Nr 4, pp. 253 - 254 (USSR)

ABSTRACT:    Thermochemical gas analyzers are produced in two types: in the
             one type the combustion takes place on a platinum wire which at
             the same time serves as thermocouple, in the other type a lami-
             nated catalyst is employed as well as a thermometer for measuring
             the heat effect. The second method has a few advantages so that
             an analyzer of this type, called TKhG - 5, was worked out by the
             OKBA (Experimental Construction Bureau for Automation). Platinum
             chloride on an aluminum oxide carrier was used as catalyst. The
             following apparatus were built among the further modifications:
             TKhG-5A with a scale 0 - 2% $H_2$ for the analysis of hydrogen in
             electrolytic oxygen, TKhG -5B with a scale of 0 - 1% $O_2$ for the
             analysis of oxygen in electrolytic hydrogen, and TKhG-5 V with
             scales 0 - 0,5% $O_2$ and 0 - 1% $O_2$ for the analysis of oxygen in
             generator gas. The error limit of the instrument is given as

Card 1/2

Thermochemical Gas Analyzer of the Type TKhG-5      SOV/64-58-4-15/20

3%; the authors give a diagram of this instrument and of the electric circuit with a corresponding description. The principle of measurement is based on the fact that an exothermal reaction is formed by the component of the gas mixture to be analysed, the heat formed being proportional to the amount of substance; the measurements are all carried out automatically. On the basis of the mentioned construction instruments can be produced for the analysis of hydrogen in a sample of industrial gases as well as of $CO_2, SO_2, NH_3, CH_4$ in the air, etc. There are 2 figures.

ASSOCIATION:   Opytno-konstruktorskoye byuro avtomatiki (Experimental Construction Bureau for Automation)

1. Gas analyzers--Performance    2. Gas analyzers--Equipment

Card 2/2

SOV/136-58-11-13/21

AUTHORS:      Dontsov, S.N.
              Berman, S.I.

TITLE:        Strength Characteristics of Titanium Alloy with 5%
              Aluminium Under Hot Pressing Conditions (Prochnostnyye
              kharakteristiki splava titana s 5% alyuminiya v
              usloviyakh obrabotki davleniyem v goryachem sostoyanii)

PERIODICAL:   Tsvetnyye Metally, 1958, Nr 11, pp 71-77 (USSR)

ABSTRACT:     A binary alloy of titanium with 5% aluminium has
              found application in Soviet industry and the work
              described has been carried out with the object of
              determining the mechanical properties and degree of
              permissible deformation at high temperatures and rates
              of deformation, including the true yield-point strength,
              the rate coefficients and the mean specific pressures
              produced during rolling in smooth rolls at high
              temperatures and various degrees of deformation.
              90 x 220 x 330 mm forgings containing 0.11% Fe,
              0.07% Si, 0.03% C, 0.02% $O_2$, 0.04% N and 0.015% $H_2$
Card 1/4      were cut into 14 x 14 x 330 mm blanks from which suitable

SOV/136-58-11-13/21

Strength Characteristics of Titanium Alloy with 5% Aluminium
Under Hot Pressing Conditions

test pieces were made. The speeds of deformation used
corresponded to those of Soviet rolling practice. A
series of resistance strain gauges were used (fig.1)
for following the tensile test, the specimen being
contained in a furnace. Maxima of relative-deformation
in tension and compression and of toughness and minima
were found (fig.2) at 1000-1150 and 900-950°C
respectively. True yield-point strengths were
determined at 800-1150°C and deformation rates of 0.33,
280, 560, 740 and 1120% per second from tensile test
results, the relations obtained (fig.4) confirming
that the degree of deformation must be taken into
account when studying the effect of deformation rate
on the true yield-point strength at such temperatures.
The rate coefficients were taken as the ratio of the
yield-point strength at the higher rates to that at
0.33% per second for the given temperature and degree
of deformation (values tabulated on p 75). A two-high
laboratory rolling mill with strain gauges was used
to find the total force between metal and rolls, from

Card 2/4

SOV/136-58-11-13/21

Strength Characteristics of Titanium Alloy with 5% Aluminium
        Under Hot Pressing Conditions

which the mean specific pressures for various
temperatures (700-1100°C) and degrees of deformation
per pass were calculated (fig.5). These experimental
specific-pressure values obtained were compared with
those calculated by A.I. Tselikov's equations (ref.12)
from the true yield-points strength allowing for the
rate and degree of deformation: the latter differed
by 10-15% from the experimental. Tselikov's equation
was also used to construct graphs of the coefficient
of friction in rolling the alloy at various degrees
of deformation (15-50%) as functions of the

Card 3/4

SOV/136-58-11-13/21

Strength Characteristics of Titanium Alloy with 5% Aluminium
        Under Hot Pressing Conditions

        temperature (fig.6):  the values of the coefficient
        varied from 0.085 to 0.36 .   There are 6 figures,
        1 table and 12 references of which 7 are Soviet and
        5 English.

ASSOCIATION: Mintsvetmetzoloto

Card 4/4

DONTSOV, S.N.; HERMAN, S.I.

Characteristics of strength and plasticity in titanium-aluminum-vanadium alloys under the effect of hot working. Izv. vys. ucheb. zav.; tsvet. met. 2 no.3:108-117 '59.          (MIRA 12:9)

1.Moskovskiy institut tsvetnykh metallov i zolota, Kafedra obrabotki metallov davleniyem.
                    (Titanium-aluminum-vanadium alloys)
                    (Deformations (Mechanics))

S/180/60/000/01/008/027
E071/E135

AUTHOR:      Berman, S.I. (Moscow)
TITLE:       The Diagram of Recrystallization of Berrylium Bronze
PERIODICAL:  Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metalurgiya i toplivo, 1960, Nr 1, pp 64-69 (USSR)

ABSTRACT:    The object of this work was to study the process of recrystallization of berrylium bronze and construction of recrystallization diagrams which are necessary for correct selection of conditions for heat treatment after cold working by pressure. Specimens, in the form of flat semis 20 x 40 x 120 mm, were cut out of an ingot of the following composition: 2.32% Be, 0.33% Ni, 0.02% Fe, 0.003% Pb, remainder copper. The specimens were heated to 800 ± 10 °C, soaked at this temperature for 6 hours and then hardened in water. They were then cold rolled with reduction of 4, 15, 30, 45, 54, 59, 63, 67 and 71%. After rolling, each specimen was cut in parts which were divided into groups and the corresponding groups were heated to one of the following temperatures: 500, 600, 700, 775, 800, 825 and 850 °C, and soaked at each temperature for one of the following periods: 30, 60 and 90 minutes, after which they were hardened in water.

Card
1/2

S/149/60/000/005/015/015
A006/A001

AUTHOR:         Berman, S.I.

TITLE:          The Conference on Mechanization and Automation of Non-Ferrous
                Metal Processing

PERIODICAL:     Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,
                1960, No. 5, pp. 153-154

TEXT:           From December 8 to 12, 1959, an All-Union scientific-technical Con-
ference was held at Artemovsk on mechanization, automation and introduction of
new techniques at plants for the processing of non-ferrous metals. The Conference
heard a series of reports by representatives from: Giprotsvetmetobrabotka, on
basic trends in the organization of technological processes of casting shops; the
Revda plant, on casting methods including vacuum absorption for casting non-fer-
rous alloy round blanks; the Kol'chugino plant on jetless casting of lead-phos-
phorous ingots and on semi-automatic temperature control of molten metal in induc-
tion furnaces; the Krasnoyarsk Institute of Non-Ferrous Metals on melting and
casting of beryllium-bronze large-size ingots under a vacuum into a water-cooled
mold; representatives from various other plants, designing offices and institutes

Card 1/3

S/149/60/000/005/015/015
A006/A001

The Conference on Mechanization and Automation of Non-Ferrous Metal Processing

reported on automation of hot and cold rolling mills, hydraulic presses, flame box furnaces; continuous measurement of the temperature of cold rolling stands; ultrasonic control of press draw; automatic control and measurement of rolled strip thickness; commercial-frequency current induction heating of round ingots; butt welding of strips into heavy weight rolls; high-speed electrolytic etching; conversion of labor-consuming zinc sheet production to highly efficient rolling process by the roll method; hydraulic metal pressing by high-pressure liquids. The Kamensk-Uralskiy Plant, the Artemovsk Plant and the Institute of Electric Welding imeni Paton reported on automatic hardfacing and reconditioning of tools for the pressing of non-ferrous metals and of easily worn out parts. The Conference stated a number of deficiencies in the fulfillment of the tasks set up by the XXI KPSS Congress, stressing, in particular, the lack of coordination in planning and conducting mechanization, automation and introduction of new techniques. This deficiency will be improved by the organization of a coordination council at the plants of non-ferrous metal processing. A series of recommendations were submitted including the organization of special courses for mathematical statistics applied to the industry; the use of vacuum arc and high-frequency melting in the manufacture of semi-finished articles, introduction of annealing

Card 2/3

S/149/60/000/005/015/015
A006/A001

The Conference on Mechanization and Automation of Non-Ferrous Metal Processing

in a vacuum under shielding gas; the Krasnoyarsk Institute of Non-Ferrous Metals was charged to invertigate the use of mills with reelers in the furnaces for non-ferrous metal rolling. The Conference approved investigations carried out by VNIITmetmash in the field of hydraulic pressing and recommended the further devel-opment of this process; the Giprotsvetmetobrabotka Institute and several plants were charged to investigate annealing of pipes in induction heaters and contact annealing of wire of various alloys.

Card 3/3

37969

S/137/62/000/005/062/150
A006/A101

*18. 1215*

AUTHOR:        Berman, S. I.

TITLE:         Temperature changes of a beryllium-bronze strip in flat hot rolling

PERIODICAL:    Referativnyy zhurnal, Metallurgiya, no. 5, 1962, abstract 5D26
               ("Sb. nauchn. tr. In-t tsvetn. met. im. M. I. Kalinina", 1960,
               v. 33, 318-323)

TEXT:          The value of coefficient k, which takes into account heat losses
from 1 m$^2$ strip surface per 1 sec in kcal, was experimentally determined. The
determination was made during hot rolling of grade Бр.Б 2 (Br.B2) Be-bronze
ingots on a two-high reversing mill with rolls 610 mm in diameter and 910 mm
barrel length; the peripheral speed of the rolls was 0.765 m/sec. There were
devices mounted on the mill for the recording on oscillographic paper of full
metal pressure on the rolls arising during rolling  as well as the number of
roll revolutions, the duration of time intervals and passes. The temperature
was measured with a photo-electric pyrometer. The data obtained made it possible
to calculate the value of coefficient k for each pass and to determine mean
values of k for different temperatures. These data were used to plot a curve

Card 1/2

Temperature changes of a beryllium-bronze ...

S/137/62/000/005/062/150
A006/A101.

showing changes in the magnitude of coefficient k as a function of temperature. With the use of this curve the hot rolling process of large-size vacuum-melted Be-bronze ingots on the aforementioned machine was developed. The dimensions of the ingots were 55/65 x 240/258 x 510 mm and 70/90 x 205/215 x 625 mm; the ingot weight was 60 and 98 kg respectively.

K. Ursova

[Abstracter's note: Complete translation]

Card 2/2

*/8.7/00*
*/8./2/5*

80521
S/136/60/000/06/017/026
E091/E435

AUTHOR:      Berman, S.I.

TITLE:       Low-Temperature Annealing of Beryllium Bronze

PERIODICAL:  Tsvetnyye metally, 1960, Nr 6, pp 74-80 (USSR)

ABSTRACT:    In the manufacture of long strip and ribbon of
             beryllium bronze which are coiled in rolls, quenching
             is difficult and for heating prior to quenching a
             battery of furnaces of special design is required.  Over
             ten years ago, the author found that quenching as an
             intermediate operation in the cold working of beryllium
             bronze by pressure can be substituted by low-temperature
             annealing.  Fig 1 shows the influence of temperature
             and duration of heating on the grain size of beryllium
             bronze strip produced by cold rolling with a reduction
             of 54%.  The average grain area of the cold worked strip
             was found to be 134 $\mu^2$.  On heating a specimen of this
             strip at 500°C for 1.5 hours, the average grain area
             had increased to 188 $\mu^2$.  To determine the influence of
             lengthy annealing at 530 to 570°C on the mechanical
             properties of cold worked strip of beryllium bronze with
             different Be contents, the following work was carried
Card 1/5     out.  Specimens for mechanical testing were made from two

80521
S/136/60/000/06/017/026
E091/E435

Low-Temperature Annealing of Beryllium Bronze

strips.  One strip, 1.7 mm thick, made from an alloy
containing 2.4% Be and 0.3% Ni, was cold rolled with a
total reduction of 39%;  the other strip, 5 mm thick,
made from an alloy containing 1.97% Be and 0.46% Ni,
was cold rolled with a total reduction of 50%.  The
specimens were placed in an electric laboratory furnace
provided with an automatically recording temperature
regulator.  The temperature variations in the furnace
did not exceed $\pm$ 10°C.  The specimens were soaked
for between 45 minutes and 8 hours at 550 $\pm$ 10°C.  The
mechanical properties, obtained by varying the duration
of annealing, are shown in Table 1.  For comparison, the
mechanical properties of the strip, heated at 770 $\pm$ 10°C
for 15 minutes and water quenched, are shown in the
same table.  The author has found that cold worked
beryllium bronze softens sufficiently for further
deformation by cold working when annealed for 5 to 7 hours
at 550 $\pm$ 10°C.  Intermediate low-temperature annealing
does not lower the mechanical properties of finished strip,
which is subsequently subjected to quenching and tempering
Card 2/5    for toughening.  BrB2 bronze strip made by using

80521
S/136/60/000/06/017/026
E091/E435

## Low-Temperature Annealing of Beryllium Bronze

intermediate low-temperature annealing possess excellent mechanical properties after quenching and tempering. Strip and ribbon of 2.5, 1.25, 0.78 and 0.48 mm thickness were subjected to various heat treatments and specimens were cut from them for mechanical testing in the direction of rolling and at right angles to it.  The results are shown in Table 2.   Fig 2 shows the microstructure of specimens cut from BrB2 beryllium bronze strip subjected to various heat treatments. Fig 3 shows the microstructure of finished quenched BrB2.5  Be-bronze strip.   Fig 4 is a microsection of a cast Be bronze specimen containing 2.35% Be and 0.25% Ni;  the specimen was heated at 800°C for one hour and shows a segregation of the β-phase.  The authors arrive at the following conclusions:
(1) Quenching, used as an intermediate step in cold working Be bronze by pressure, can be replaced by annealing at temperatures below those at which the β-phase transforms.  (2) After low-temperature annealing, Be bronze has practically the same UTS, a lower

Card 3/5

80521
S/136/60/000/06/017/026
E091/E435

Low-Temperature Annealing of Beryllium Bronze

elongation and a greater hardness than quenched
Be bronze.  The annealed material has the same
plasticity as the quenched one.  (3) Low-temperature
annealing can only be applied as an intermediate step.
Before being tempered for toughening, semi-finished
articles and parts made by  pressure cold working with
intermediate low-temperature annealing must be subjected
to heating to 770 to 790°C and water quenching.
(4) Intermediate low-temperature tempering does not
lower the mechanical properties of Be bronze subjected
to quenching or toughening-tempering.  (5) On cold rolling,
the quenched, as well as the annealed, material develops
anisotropic mechanical properties.  The difference in
mechanical properties of strip along and across the
rolling direction decreases noticeably after quenching
cold rolled material and does not exceed that which is
permissible for materials intended for deep drawing.
(6) A linear distribution of  α + β'  phase mixtures is
observed in microsections of specimens cut from cold
rolled strip along and across the direction of rolling,
Card 4/5    regardless of whether the material prior to rolling had

80521
S/136/60/000/06/017/026
E091/E435

Low-Temperature Annealing of Beryllium Bronze

been quenched or annealed. (7) Semi-finished
low-temperature annealed articles and parts of
BrB2.5 Be bronze must be heated prior to quenching for
a longer time than those of BrB2 bronze. (8) The
advantage of low-temperature annealing prior to quenching,
applied as an intermediate step, is that it can be
carried out in vacuum and a finer grain size can be
obtained. There are 4 figures, 2 tables and 5 references,
3 of which are Soviet, 1 French and 1 English.

Card 5/5

S/180/61/000/006/001/020
E193/E383

AUTHORS:     Berman, S.I. and Perlin, I.L.

TITLE:       Scientific and technical problems of plastic-working
             of nonferrous metals by the operations of the
             squeezing group

PERIODICAL:  Akademiya nauk SSSR.  Izvestiya.  Otdeleniye
             tekhnicheskikh nauk.  Metallurgiya i toplivo,
             no: 6, 1961, 3 - 7

TEXT:       Rapid expansion of the national economy envisaged in
the new programme of the Communist Party of the Soviet Union
will necessitate a corresponding increase in the production
capacity of the nonferrous metal-working industry and in the
range of the materials produced.  This, in turn, will necessitate
the introduction of new techniques, agglomeration of various
fabricating processes and their intensification attained mainly
by wider application of electrical heating and by increasing the
speed of deformation.  Some of the problems created by these
developments and means of their solution are discussed briefly
in the present paper.
Card 1/5

Scientific and technical ....

S/180/61/000/006/001/020
E193/E383

1)  It is suggested first that the quantity of rolling stock
produced can be increased by incorporating the melting, casting
and rolling operations in one continuous line.  This system is
at present applied on a small scale in the production of aluminium
foil and wire, and work is in progress on the development of a
similar process for the production of copper-wire and rod.  The
main difficulty in applying this process to melting two-phase
alloys is their tendency to segregate during casting, as a
result of which, lengthy homogenizing treatment, difficult to
incorporate in a continuous line, is necessary.  In this
connection, it would be desirable to search for alloying
additions and/or methods of casting which would ensure homo-
geneity of the billets.
2)  The output of tubes could be increased by changeover from
extruded to seam (straight or helical) welded tubes fabricated
by a continuous process.  The results of tentative investigations
have shown that this technique could be successfully employed
on an industrial scale for fabricating copper, brass, nickel,
aluminium, duralumin and other nonferrous-metal tubes.  However,

Card 2/5

Scientific and technical ....

S/180/61/000/006/001/020
E193/E383

before this technique can be usefully adopted, problems will
have to be solved of producing consistently high-quality welds
which will possess practically the same mechanical properties
and corrosion-resistance as the material outside the weld.  A
reliable method of continuous testing of the quality of the
welded seam would have to be developed.
3)  The efficiency of extrusion processes could be increased
by reducing the percentage of waste material; this could be
attained by extruding without the formation of extrusion
discards, by increasing the extrusion speeds and by the appli-
cation of extrusion techniques similar to those used in
cable-sheathing.
3)  It would seem desirable to explore the possibilities of
using ultrahigh pressures in extrusion, wire-drawing, rolling and
forging processes.  In addition to other benefits, solution
of this problem would bring about an increase in the strength
of the finished product and a corresponding reduction in the
quantity of metal consumed.

Card 3/5

Scientific and technical ....          S/180/61/000/006/001/020
                                       E193/E383

The difficulties associated with the shortage of some metals
can be overcome by wider application of clad materials.  In this
connection, there is a need for development of new methods of
thermal and mechanical treatment which would ensure the for-
mation of a high-strength bond between the core and the cladding
materials.
5)  High priority should be given to research and development
work on powder-metallurgy techniques, particularly as applied
to dispersion-hardened materials.
6)  Friction between the tool and the fabricated metal is an
important aspect of all metal-working processes.  A search
should be instigated for more efficient and cheaper lubricants
and more attention should be paid to the problem of pressure-
feeding the lubricant into the deformation region.
7)  More attention should be paid to process-control and
inspection at every production stage.  Work should continue
on the development of reliable and accurate testing methods and the
statistical of process control should be more widely used.

Card 4/5

Scientific and technical ....      S/180/61/000/006/001/020
E193/E383

8) There is an urgent need to develop the theory of plastic
working of complex shapes or difficult materials (titanium.
tantalum, niobium, germanium, uranium, thorium, beryllium, etc.).
9) Since the number of nonferrous semi-fabricated and finished
articles of different shapes and sizes, made by plastic-working
processes, exceeds 20 000 positions, more attention should be
paid to specialization of new plants whose location should be
chosen in a less haphazard manner.

Card 5/5

39795
S/032/62/028/008/008/014
B104/B102

*18-8200*

AUTHORS:      Kachaynik, O. I., and Berman, S. I.

TITLE:        Determination of the plastic yield stress at high temperatures
              applying high rates of deformation

PERIODICAL:   Zavodskaya laboratoriya, v. 28, no. 8, 1962, 971 - 975

TEXT: Specimens of titanium alloyed with Al, V and Mo were tested in a
tensile testing machine at stretching rates of 222, 520 and 1400 mm/sec.
The deformation rates were 556, 1300 and 3500 %/sec. The force acting on
the samples was measured with a pressure cell and electric strain gages.
During the experiment the samples were subjected to temperatures of 600,
700, 800, 900, 1000, 1100 and 1150°C inside a tubular furnace. Elongation
was measured by strain gages and contraction photoelectrically. A specimen
was stretched at a rate of 222 mm/sec after annealing at 1000°C for 10 min;
its failure occurred after 0.9 sec and the elongation was 50%. There are
4 figures and 1 table.

Card 1/2

Determination of the plastic yield ...

S/032/62/028/008/008/014
B104/B102

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

Card 2/2

BERMAN, S.I.

New protective coatings for the manufacture of mirrors. Leh.prom. no.1:39-40 Ja-Mr '63. (MIRA 16:4)

1. Kiyevskiy zavod "MITOS".

15(2)

AUTHORS: Antosyak, V. G., Berman, Sh. M., 8/131/60/000/01/008/017
Ploshchenko, Ye. A. B015/B001

TITLE: The Durability of the Refractory Walling of 500-t Martin
Furnaces

PERIODICAL: Ogneupory, 1960, Nr 1, pp 24 - 30 (USSR)

ABSTRACT: In this paper, the authors describe the stability of 500-t
Martin furnaces on account of concluded campaigns. The
following furnace parts and their lining and durability, ex-
pressed in the number of melts, are given: the main- and
head crown of the furnace (see Table); the front and the
back furnace wall; the lining of the gas caissons (Fig 1);
the lining of the lid of the charging window; the crowns of
the slag containers and regenerators (Fig 2); the checker-
works of gas- and air generators (Figs 3, 4, 5, and 6); the
checkerworks of regenerators of a Martin furnace with oil
heating; the lining of smoke valves and channels. To sum up,
the authors mention that the stability of the main crowns of
500-t Martin furnaces is insufficient. The stability has to
be increased by the use of refractory highly compact magnesite

Card 1/2

The Durability of the Refractory Walling of        S/131/60/000/01/008/017
500-t Martin Furnaces                              B015/B001

chromite and periclase spinellide products. The pillars of
the front furnace wall show the least durability. A material
of higher durability has to be found for their linings and a
method of repairing these linings has to be worked out during
the operation of the furnace. The upper brick rows of the
checkerworks last for one furnace campaign, the lower rows
can work through the next campaign after having been cleaned.
The impenetrability of fire channels and valves has to be in-
creased. There are 6 figures and 1 table.

Card 2/2

S/131/60/000/009/001/008/XX
B021/B052

AUTHORS:    Berman, Sh. M., and Revzina, F. S.

TITLE:    Production and Testing of High-density Magnesite-Chromite
Products for Furnace Crowns

PERIODICAL:  Ogneupory, 1960, No. 9, pp. 397-400

TEXT:  This work was conducted at UNIIO (Ukrainskiy nauchno-issledovatel'-
skiy institut ogneuporov - Ukrainian Scientific Research Institute of
Refractory Materials) under the guidance of A. S. Frenkel'. Among other
things, the relation between the density of magnesite-chromite products
and their stability has been studied. High-density products for furnace
crowns have been produced by the test plant of UNIIO. The chromite
contained 54.30% $Cr_2O_3$, 13.60 $Fe_2O_3$, and 15.77% MgO, and the powdered
magnesite contained 91.63% MgO. The bricks were baked between 1580° and
1600°C. Their temperature of deformation was between 1570° and 1630°C
under a pressure of 2 $kg/cm^2$. The average wear of magnesite-chromite

Card 1/2

Production and Testing of High-density
Magnesite-Chromite Products for Furnace
Crowns

S/131/60/000/009/001/008/XX
B021/B052

bricks was 21% higher than that of the normal product of the Chasov Yar
Combine. Figs. 1 and 2, and Table 4 show the changes of their properties
and their chemical and mineralogical compositions after use in open-
hearth furnaces. Tests have demonstrated the dependability of high-density
products for crowns, guaranteeing an increase in their stability by
20 - 25% even at standard baking temperatures. The best results were
obtained with bricks containing 20% of chromite. There are 2 figures,
4 tables, and 5 Soviet references.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov
(Ukrainian Scientific Research Institute of Refractory
Materials)

Card 2/2

BERMAN, Sh.M.; YAN'SHINA, M.P.; SHAPOVALOV, V.S.; Prinimali uchastiye:
KOVAL'CHUK, Ye.I.; PLOSHENKO, Ye.A.; POPOV, G.I.; SHKAPIN, V.G.;
ANTONOV, G.I.; KOVTUN, A.M.

Service conditions and processes of the wear of basic refractories
in the bulkheads of open-hearth furnace front walls. Sbor.nauch.
trud. UNIIO no.5:181-201 '61.

(MIRA 15:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov
(for Antonov, Kovtun).
(Open-hearth furnaces—Design and construction)
(Firebrick—Testing)

ANTONOV, G.I., inzh.; BERMAN, SH.M., inzh.

Efficient design of regenerator checkerwork. Stal' 21 no.5:413-414
My '61.
(MIRA 14:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.
(Open-hearth furnaces--Design and construction)

BERMAN, Sh.M.; YAN'SHINA, A.P.; ANTONOV, G.I.; PLOSHCHENKO, Ye.A.;
    SHAKHOV, N.A.; MOVLYAVA, A.P.

Testing non-fired forsterite brick in the checkered brickwork
of air regenerators of 500-ton open-hearth furnaces.  Ogneupory
26 no.6:272-273 '61.                                (MIRA 14:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov
(for Berman,Yan'shina, Antonov). 2. Alchevskiy metallurgicheskiy
zavod (for Ploshchenko, Shakhov, Movlyava).
        (Forsterite)    (Open-hearth furnaces)

ANTONOV, G.I.; BERMAN, Sh.M.; PLOSHCHENKO, Ye.A.; DRYAPIK, Ye.P.;
SHAKHOV, N.A.; NAYDEK, V.L.

Gas flow distribution in regenerators of 500-ton open-hearth
furnaces. Stal' 22 no.4:306-309 Ap '62.                (MIRA 15:5)
        (Open-hearth furnaces)     (Gas flow)

ANTONOV, G.I.; BERMAN, Sh.M.; KOSOGOLOV, V.V.; SHEYKO, I.I.; KAL'NOY, Ye.L.;
KHALEMSKIY, S.F.

Present state and prospects for the development of refractory
linings in foundry open-hearth furnaces.  Lit. proizv. no.6:
19-21 Je '63.                                        (MIRA 16:7)

(Open-hearth furnaces—Design and construction)
(Refractory materials)

ANTONOV, G.I.; BABENYSHEV, M.A.; BERMAN, Sh.M.; SHAPOVALOV, E.V.

Useful life of the checkerwork in 600-ton open-hearth furnaces. Met.
i gornorud. prom. no.3:32-34  My-Je  '63.                    (MIRA 17:1)

ANTONOV, G.I.; BERMAN, Sh.M.

Service life of refractories during intensified steel pro-
duction in open-hearth furnaces. Stal' 24 no.1:25-27
Ja '64.

(MIRA 17:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

ANTONOV, G.I., inzh.; BERMAN, Sh.M., inzh.

Selecting an efficient type of refractory material for lining
open-hearth furnace regererators. Stal" 24 no.10:893-895
O '64.                                                    (MIRA 17:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

L 09261-67   EWP(e)/EWT(m)   WH

ACC NR: AP6029974                          SOURCE CODE:  UR/0413/66/000/015/0166/0166

INVENTORS: Frenkel', A. S.; Antonov, G. I.; Berman, Sh. M.; Shapovalov, V. S.;
Minkovich, B. D.; Revzina, F. S.

ORG: none

TITLE: A method for producing basic refractory products.  Class 80, No. 184693
/announced by Ukrainian Scientific Research Institute of Refractories (Ukrainskiy
nauchno-issledovatel'skiy institut ogneuporov)/

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 166

TOPIC TAGS: refractory product, refractory compound, powder metal, powder metallurgy,
magnesite, magnesium compound

ABSTRACT: This Author Certificate presents a method for producing basic refractory
products from pressed powder containing magnesite by forming this powder.  To produce
a consistently uniform volume of the products, melted materials such as magnesite,
spinels, and forsterite are introduced into the pressing powder.  Their amount is
30--70% of the pressed powder by weight.  The products may be fired in an oxidizing
medium at a temperature of 1750--1800C.

SUB CODE: 13,11/    SUBM DATE: 22Jun64

                                                    UDC: 666.763.002.2
Card 1/1

BERMAN, SOLOMON SEMENOVICH          DECEASED                          1964

C.'63

Heat Exchange
Power Engr.

konferentsii. Moscow, Izd-vo Nauka, 1964.

xylene) Formulas for finding the enrichment value are presen...

L 14957-65

ACCESSION NR: AT4048191

Card

BERMAN, S.V., starshiy laborant

Rhinocytoscopic observations in influenza $A_2$. Trudy Kaf.
proped. vnutr. bol. LPMI no.3:88-94 '64.

(MIRA 19:1)

BERMAN, S. Ya.

"Characteristics of Dysentery Microorganisms of the Flexner Group Isolated in 1941-1949 in the Town of Baku." Cand Med Sci, Inst for the Advanced Training of Physicians; Baku Inst of Epidemiology and Microbiology, Baku, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

BERMAN, S. YA.

"On the Contemporary Laboratory Diagnosis of enteric Infections,"
a report given at the first republic scientifis-practical conference of physician-
bacteriologists of the Scientific Research Institute of Epidemiology, Microbiology,
and Hygien of the Ministry of Health Azerbaydzhan SSSR held in Baku, 25 Apr 56.

SUM: 1360 p. 239

MEDZHIDOV, B.F.; BERMAN, S.Ya.

Results of studying intestinal infections in the Azerbaijan
S.S.R.  Zhur.mikrobiol.epid. i immun.  30  no.5:136  My '59.
(MIRA 12:9)

1. Iz Instituta epidemiologii, mikrobiologii i gigiyeny
Ministerstva zdravookhraneniya Azerbaydzhanskoy SSR.
(INTESTINES--DISEASES)