

21089
S/135/61/000/005/001/011
A006/A101

Investigating the cutting with arc plasma ...

power and the cutting properties of the plasma jet which are determined by the arc current and voltage, gas consumption and composition, length and diameter of the nozzle channel and the distance of the nozzle from the surface to be cut (Fig. 2 and 3). Maximum efficiency of plasma arc cutting is assured by maximum possible welding current and arc voltage, least possible distance of the nozzle from the surface of the sheets to be cut, minimum length of the nozzle channel, and optimum gas consumption and nozzle diameter. The cutting rate can be increased by using gases or gas mixtures of high ionization potentials. Comparison data on the cutting rate by various methods are given in a table. Plasma arc cutting with a jet singled out from the cathode flame can be employed for cutting various non-electric conducting materials, such as refractory bricks, concrete, granite, carborundum etc. The process can be performed either manually or automatically. According to data submitted by engineer V. P. Norenko of Kramatorsk at the Moscow Welding Conference in March 1960, the method assures satisfactory properties of the cut when preparing stainless steel sheets for welding. On the basis of IMET-104 torch, an improved design - the ИМЭТ-106 (IMET-106A) torch was developed in 1960, intended for automatic and manual cutting, at 300 - 350 amp current and 15 kw maximum power. The water-cooled adapter contains a screwed-in nozzle with a conical contact surface and threaded lower section (Fig. 6).

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S/135/61/000/005/001/011
A006/A101

Investigating the cutting with arc plasma ...

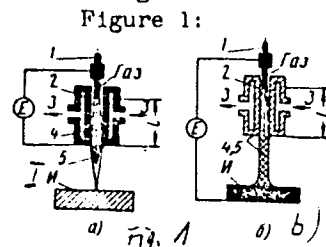
The minimum wear of the nozzle is 0.01 - 0.02 g/kw-hr when using argon. The torch and its connection system are shown in Figures 5 and 7. It can be employed for metal cutting with both an arc singled out from or coinciding with the cathode flame. The cutting process is stable and no special equipment is needed. The torch can be mounted on any oxygen cutting assembly and will prove most suitable for manual cutting of up to 10 - 15 mm thick metals.

Figure 1:

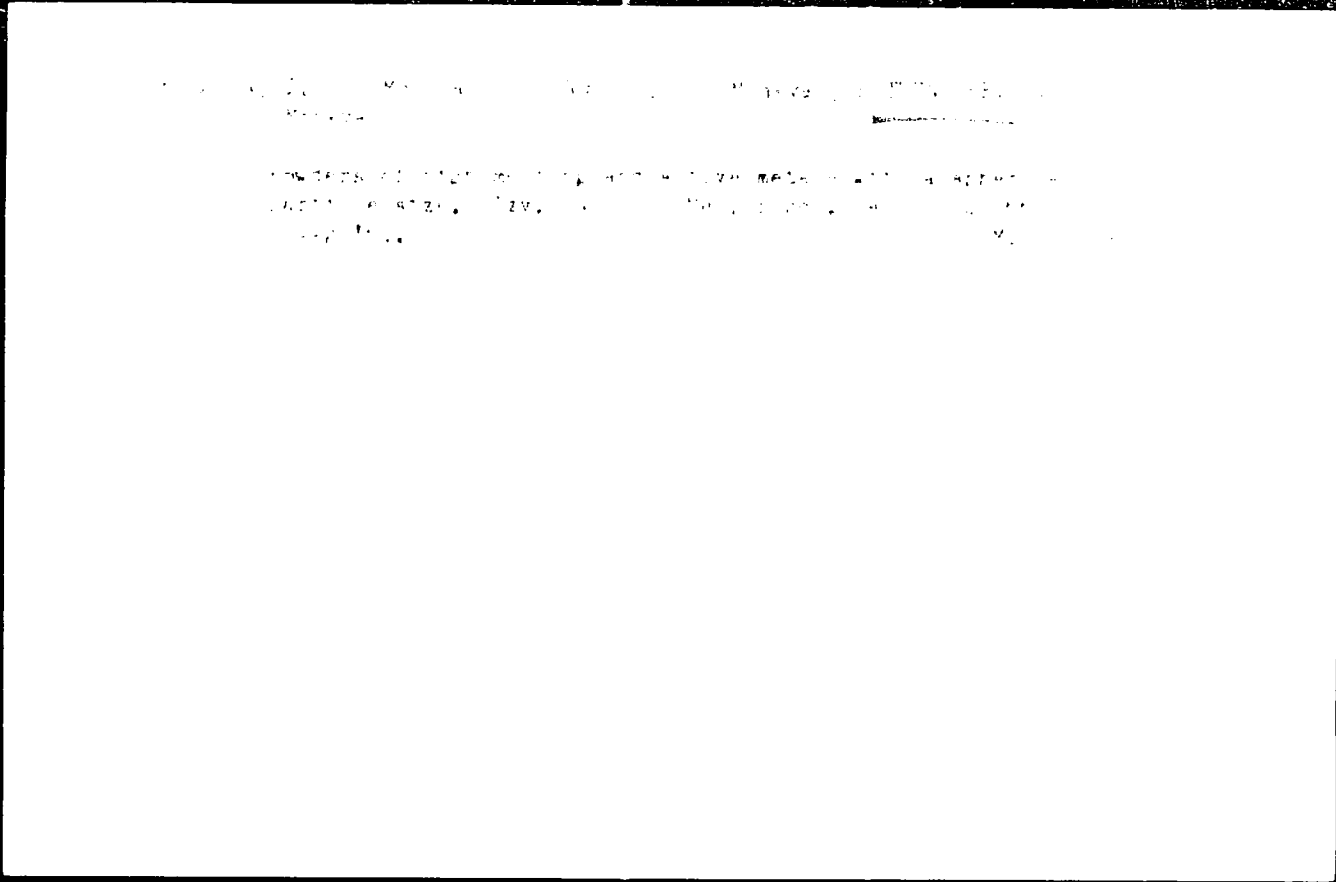
Schematic representation of plasma cutting process:

a - with plasma jet singled out from the cathode flame; b - with plasma jet coinciding with the cathode flame; 1 - electrode; 2 - nozzle; 3 - cooling

water; 4 - cathode flame; 5 - plasma jet. E - current feed source; I - work piece; 1 - sinking of the arc into the channel



Card 3/10



ACC NR: AP6036450

SEARCH CODE: 12/01/06/00 1100 1100

AUTHOR: Petrunichev, V. A. (Moscow); Mikhailov, V. I. (Moscow)

ORG: none

TITLE: Plasma spraying method of producing refractory-metal spherical particles

SOURCE: AN SSSR. Izvestiya. Metallurgiya, 1979, No. 1, p. 17

TOPIC TAGS: refractory metal, spherical particles, refractory metal powder, refractory metal powder production, metal powder

ABSTRACT: Spherical particles, 1 to 20 μ in diameter, were obtained from refractory metal powder particles by spraying. The effect of the spraying parameters on the spheroidizing takes place in a stainless-steel chamber into which the particles, suspended in a stream of an inert gas, are blown. The yield of spherical particles is at least 90%. Ultrafine (on the average less than 0.1 μ) powders of numerous materials may also be produced at a fairly high rate by vaporization of standard powders in the plasma arc. Orig. art. has: 4 figures.

SUB CODE: 11, 13/ SUBM DATE: 08oct69/ ORIG REF: 006/ OTH REF: 002/
ATD PRESS: 5108

Card 1/1

DOC: 669:621.762.001

YEROKHIN, A.A. (Moskva); PETRUNICHEV, V.A. (Moskva)

Kinetics of the melting process and electrode metal transfer during
arc welding. Izv. AN SSSR. Otd. tekhn. nauk Met. 1 topl. no.2:70-77
Mr-Apr '59. (MIRA 12:6)

1. Institut metallurgii AN SSSR.
(Electric welding)

PEPEUNICHIV, V.A., inzh.

Distribution of hot arc flow in welding under flux. Svar. proizv.
no.4:19-22 Ap '58. (MIRA 11:4)

1. Institut metallurgii imeni A.A. Baykova AN SSSR.
(Electric welding)

BR

ACCESSION NR: AT4026353

S/0000/62/000/000/0174/0180

AUTHOR: Petrunichev, V. N.

TITLE: Alternating current power supply sources for addressing systems

SOURCE: Konferentsiya po obrabotke informatsii, mashinnomu perevodu i avtomaticheskomu chteniyu teksta. Moscow, 1961. Vy*chislitel'naya i informatsionnaya tekhnika (Information processing and computer technology); sbornik materialov konferentsii. Moscow, 1962, 174-180

TOPIC TAGS: power supply, parametron, alternating current power supply, circuit design, memory, addressing

ABSTRACT: The author points out the interest in the recent use of the frequency or phase of HF harmonic oscillations for the transmission of information in computer systems and in the feeding of logical and memory circuits with short a-c or HF voltage bursts (radio pulses). The advantages of this system are briefly discussed; particular attention is called to the parametron - a new logical and memory element recently introduced into computer engineering. Some of the features of this device are noted. Described in the body of the present article is a radio pulse feed system for the magnetic address system of a long-term capacitance memory device (DEZU). This pulse power

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ACCESSION NR: AT4026353

supply unit was developed at the Laboratoriya elektromodelirovaniya (Laboratory for Electrosimulation). The system consists of two radio pulse sources. Source 1 provides radio pulses with a filling (priming) frequency of 150 kc and is used to feed the input address system of the long-term capacitance memory (DEZU), by means of which system the pulse is doubled in frequency and fed to one of the cards in the unit of the DEZU. In this manner, all the information recorded on this card is read out. The required word is selected from this information by means of the output address system designed with parametrons. This system is powered by source 2 which furnishes pulses with a filling (priming) frequency of 600 kc. Both sources are close-coupled in frequency and phase of oscillations, with the driving or master source being No. 2, which synchronizes the pulse frequency of source No. 1 in a mode of division by 4. The system operates with delay, being triggered by a pulse received from the machine control unit, upon access to the DEZU. The method of operation and some performance data are given in the article. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: IE, CP

NO REF SOV: 003

OTHER: 000

Card 2/2

VASHI'YEV, A.P., red.; KUZNETSOV, V.I., red.; PETRUCHENOV, I.K.,
red.

[Computer and information techniques] Vychislitel'naya i
informatsionnaya tekhnika; sbornik materialov. Moskva,
Vost. front mašinski i tekhn. informatsii Ak. SSSR, 1961.
— 1. (MIRA 1737)

... k n.
... ..

FETRUNCHEV, Ye.

Hungarian encounters. *Mast.ugl.* 9 no.9:26-27 S'60.

(MIRA 13:10)

(Hungary--Coal miners)

S/724/61/000/000/010/020

AUTHOR: Patrunin, A. M.

TITLE: The casting of large AA8 (AL8) alloy castings.

SOURCE: Liteynnye alyuminiyevyye splavy; svoystva, tekhnologiya plavki, lit'ya i termicheskoy obrabotki. Sbornik statey. Ed. by I. N. Fridlyander and M. B. Al'tman. Moscow, Oborongiz, 1961, 79-87.

TEXT: The paper describes the various precautions that must be introduced at every step of the smelting of the metal, the pouring of the casting, the knocking out of the core, and the heat treatment, all of which are required to counteract the tendency of the AL8 alloy toward oxidation in the liquid state. All of this is especially consequential in the casting of large parts. The paper describes the smelting of AL8 alloy in shaft-type electric furnaces and in graphite crucibles of a 100-120-kg capacity. It details the composition of the protective coating, which prevents the entry of the Fe of the cast-iron and steel crucibles into the smelted alloy. Preheat to 600-700°C of the crucibles and the use of small lumps in the charge is recommended to accelerate the process as much as possible. Use of a flux consisting of 60% dewatered carnallite and 40% fluorspar is recommended. Appx. 0.05-0.07% each Be and Ti help to reduce oxidation and, hence, formation of "blackening." The most desirable mechanical casting procedure is outlined in detail. In order to

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The casting of large AL8 (AL8) alloy castings.

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facilitate the knocking out of the cores from the castings and to minimize the oxidation of metal in the mold in the process of solidification, especially in large castings, a new core mixture is proposed which contains additions of 2.5% caustic sulfide binder and 0.75% pectic glue, also a protective addition of 1% boric acid, all with a moisture of 3.5-4%. The mixture was prepared with Lyubertsy sand with an addition of 5% Tombov clay. Measures required to minimize the shrinkage stresses both during solidification and during the subsequent cooling are described, and extreme caution in exposing the freshly-cast parts to impact blows, such as those of pneumatic hammers, is urged. Details of the pouring-system geometry required for parts of various shapes are set forth, and the pouring system for large parts is exemplified in a detailed cross-section. The dependence of the mechanical properties of sand-cast parts made of AL8 alloy on the size of the micrograin is graphically portrayed, and a heat treatment consisting of the heating of AL8-alloy parts in furnaces with air circulation at a temperature of $435 \pm 5^\circ$ for 15-20 hrs and their cooling in water at $95-100^\circ$ or in oil at $40-50^\circ$ is detailed. It is concluded that the only means for a further improvement of the mechanical properties of thick-walled castings in sand molds would be the introduction of chillers, i.e., an increase in the rate of cooling, which would afford the development of a structure with a finer dendritic texture. There are 2 figures only.

Card 2/2

21158

S/032/61/027/004/018/028
B103/B201

15.2142

AUTHORS: Petrunin, A. M. and Petrunin, I. Ye.
TITLE: Test of friction cermets for adhesive power to the steel
carcass
PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 4, 1961, 461

TEXT: The authors suggest a method of testing cermets for shearing in a system devised by them for this purpose. It is possible thereby to control the quality of adhesion of such substances to the steel carcass. It is stated that an increase of the content of nonmetallic components causes this adhesion to be impaired considerably. The use of cermets for heavy duty brakes is thus reduced. The intermediate metal powder layer suggested by the authors [Abstracter's note: No reference] to serve as a base for cermets augmented the adhesive power (after pressing and sintering) to the steel carcass, and, thus, the serviceability under heavy stress. However, the quality of adhesion of various sets of cermets is in this case very difficult to be evaluated by comparison. To find a way out of this difficulty, the authors tested annular cermets for shear-

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21158

X

Test of friction cermets for ...

S/032/61/027/004/0'B/028
B103/B201

ing in their new device [Abstracter's note: Figure is too unclear for reproduction] which is clamped between the jaws of a tensile-testing machine. The latter is kept under stress until the sample suffers breakdown, and the shearing resistance is determined by the formula:

$\tau_{\text{shear}} = P/F \text{ kg/mm}^2$. Here, P denotes the maximum destructive load in kg, F is the area of the cross section of the annular sample at the site of shearing in mm^2 . The effect of friction may be neglected. To prepare the samples, 2-3 workpieces are selected from a set of cermets, and turned into annular samples with external diameters of $28 \pm 0.05 \text{ mm}$ and an inside diameter of $12 \pm 0.1 \text{ mm}$. To indicate the breaking direction, a 0.75-mm deep cut is applied externally to the sample at the boundary with the steel carcass. The authors' method not only allows the control of adhesion, but also a more accurate choice of pressure for sintering. There is 1 figure.

Card 2/2

PETRUNIN, A.M.; LOKTIONOVA, N.A.; AL'TMAN, M.B., rukovoditel' raboty;
Prinimali uchastiye: LOZHICHEVSKIY, A.S.; SHKROB, V.A.; POSTNIKOV,
A.S.; ARBUZOV, B.A.; PANTYUSHKOVA, N.S.; POBOCHINA, T.V.;
PATRUSHEV, L.M.

Mastering the production of large Al8 alloy castings. Alum.
splavy no.1:150-159 '63. (MIRA 16:11)

PHASE I BOOK EXPLOITATION 30V/36A

Авторы: В.В. ССР. Институт машиностроения

Поверхности эффективной тормозной системы. Свойства фрикционных материалов (исследование эффективности фрикционных свойств материалов). 183 p. Экзема slip (серия). 1,800 copies printed.

Resp. Ed.: V.S. Shchedrov, Doctor of Technical Sciences, Professor; Ed. of Publishing House: P.K. Polyakov; Tech. Ed.: I.V. Polyakova.

PURPOSE: This collection of articles is intended for engineers and scientific workers specializing in brakes and friction materials.

COVERAGE: The first group of articles deals with basic design measures for increasing the life of the contact surfaces of brakes; the second group with problems of friction materials; the third group with application of friction materials; the fourth group with testing methods and the results of investigations of friction pairs and brakes and the fourth group with the design of brakes and calculation data. No personal files are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

Chuplino, O.Ye., S.S. Kozmin, A.V. Paut, and V.P. Kostinikov. Automatic Braking of Aircraft. Results of a study of automatic brake systems particularly the effect of mating characteristics and adjustment of the single members in particular systems on brake efficiency. 26

Khroshch, L.B. Basic Design Measures for Increasing the Life and Efficiency of Brake Brakes. The author discusses the construction and operation of railroad brakes with respect to increasing the life and efficiency and outlining braking distances, and describes types of modern brakes in use and in the experimental stage. 46

PART II. DEVELOPMENT OF NEW FRICTION MATERIALS AND INVESTIGATION OF THEIR APPLICATIONS

Tredanaki, V.V., and A.K. Berinva. Investigation of Friction Properties of Low-Carbon Iron-Based Alloys. The author presents results of a study of friction properties of steels of various chemical composition, from the regular carbon - to high-alloy, heat-resistant steels. They also describe the effect of various alloying additions on the friction properties and wearability of steels. 62

Sludko, B.I., and A.A. Yezhov. Chromium Brakes for Heavy-Duty Brakes. The authors describe the properties of chromium brases, giving their characteristics as iron. Friction material for brakes, and comparing them with cast iron. 82

Radov, K.M. Development and Investigation of Ceramic Friction Alloys. The author presents test information on the PK-8 ceramic friction material, which was tested in a pair with type CHM80 cast iron. 88

Georgiyevskiy, G.A. Aspects of the Development of Heat-Resistant Friction Materials. 93

Friction Materials. This article describes the initial components of friction materials: iron, aluminum boron oxide, asbestos, zinc lead oxide, carbon black, graphite, silica gel, slag wool, iron powder, lead powder, steel wool, brass wire and chips, asbestos, etc., are examined. Their effect on strength and friction coefficients at various temperatures is investigated. 110

Godunenko, V.M., and A.N. Feinman. Friction Between Cast Iron and Plastic. The authors discuss aspects of the composition, structure and properties of the plastic working in pair with PK-161 plastic, on changes in the friction coefficient. 110

ACCORD

ADVIS

Summary, 1964

Card 1/2

TITLE:

operating characteristics of

SOURCE: High strength aluminum alloy, Operating characteristics of heavy (Heat-resistant and high strength alloy, 1964)

TOPIC TAGS: aluminum alloy, high strength alloy, metal property/AD33 aluminum alloy

ABSTRACT: A method of manufacturing large heat wrought aluminum-alloy parts has been developed. The alloy contains 0.03% Mg, 0.05% Si, 0.10% Cu, and 0.25% Cr with an impurity content of not more than 0.1% Mn, 0.01% Pb, 0.17% Zn and 0.015% Bi. Machined, round ingots, 270 mm in diameter and 1,500 mm long, and 290 mm in diameter and 740 mm long were forged into disks 270 mm in diameter and 600 mm thick, and 270 mm in diameter and 370 mm thick, respectively. The disks were solution-heat treated at 520C, water quenched, and artificially aged at 170C for 17 hr. In this condition the disks had a tensile strength of 47-51 kg/mm², a yield strength of 27-30 kg/mm², and an elongation of 8-12%. Anisotropy of mechanical properties did not exceed 2 kg

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ACC NR: AT6024947

for tensile strength and elongation. The fatigue limit (in millions cycles) was about the same as that of the corresponding cast alloys (7.5—15 kg/mm² for steel specimens and 0.5 kg/mm² for aluminum specimens). The specimens of the cast alloys were tested for corrosion resistance by immersion in a 5% solution of NaCl + 0.1% H₂O₂ for 5 minutes. The susceptibility to corrosion was characterized by the reduction in strength and elongation. The range of tensile strength variation (depending on the reduction in strength) from 10—15%, and that of elongation, from 7.5—30.0%. Generally, the cast alloys are more suitable for operating under these conditions than MD9, Al-9, Al-11, and Al-12. However, smaller ingots may be used for forged parts, the ingots should be homogenized prior to forging, and forging conditions should ensure high and uniform reduction. (orig. art. has 2 figures and 8 tables.)

SUB CODE: 11, 13, SUBM DATE: none; ALL PAGES: 15

Card 2/2 hs

PETRUNIN, A.M.; PETRUNIN, I.Ye.

Testing friction ceramic metals for their strength of adherence to
steel frames. Zav. lab. 27 no. 4:461 '61. (MIRA 14:4)
(Ceramic metals) (Adhesion)

18 8100
24 7500
1.1210

1418 4016 1530
1144, 1160, 1482
2808, 3008, 3108

26693
B'09/B102

AUTHORS: Al'tshuler, L. V., Korner, S. B., Bakanova, A. A., Irtsnik,
A. P., Funktikov, A. I., Gutkin, A. A.

TITLE: Irregular conditions of oblique collision of shock waves in
solids

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 4,
no. 5(10), 1961, 1362 - 1393

TEXT: On the basis of papers by V. Blikney, A. Taub (Sb. Voprosy raketnoy
tekhniki, 1, 1951); L. D. Landau, Ye. M. Lifshits (Mekhanika sploshnykh
sred - Mechanics of Continuous Media, Gostekhizdat, 1954), O. S. Ryzhov,
S. A. Khristianovich (PMM, 22, 586, 1958), Ya. B. Zel'dovich, Gandel'man,
and Ye. A. Fecktistova (DAN SSSR, 136, 1325, 1961) the authors describe
a method of producing and recording irregular conditions for the collision
of shock waves in solids. The experimental arrangement is shown in Fig
2a. The detonation waves which enter the specimen at a slant cause shock
waves with amplitudes of between 3 and $4 \cdot 10^5$ atm. Another arrangement
allowed reaching shock waves of $1 - 1.8 \cdot 10^6$ atm. The parameters of the

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S/056, 617041 0057 8 117
B109, B102

Irregular conditions of oblique . . .

three-shock configuration forming as a result of the collision of the shock waves, are given for aluminum, lead, iron, and copper bodies. Near the critical angle at which a shock wave can still arise pressure was found to rise by from 5 to 8 times. When the waves have greater amplitudes, pressure in the collision region rises up to $4 \cdot 10^6$ atm in aluminum. In steel, copper, and lead it may even reach $7 \cdot 10^6$ atm if the waves collide at right angles. The results are analyzed by means of the method of the impact polars. It is shown that the picture with only one tangential discontinuity cannot be employed in describing the irregular conditions of the oblique collision of weak shock waves in the metal. The authors present a method of determining pressure and density behind the reflected wave front from the parameters of the three-shock configuration. Pressure and density for the collision of strong shock waves in aluminum were calculated as examples. It was found that the incident and reflected waves increase the density of aluminum up to 6.12 g/cm^3 . M. P. Speranskaya, N. S. Tenigin (deceased), A. N. Kolesnikova, M. S. Shvetsov, L. N. Gorelova, and M. V. Sinitsyn are thanked for assistance and information. There are 14 figures, 5 tables, and 9 Soviet references.

SUBMITTED: May 18, 1961

Card 2/3

AL'TSHULER, L V.; KOSMER, S B ; BAKANOVA, A A.; PETRUNIN, A.F ;
FUFTIKOV, A I ; GUBNIK, A A.

Irregular conditions of oblique collision of shock waves in
solids. Zhur. eksp. i teor. fiz. 41 no.5:1382-1393 N '61.
(MIR: 14:12)
(Shock waves)

AL'TSHULER, L.V.; PETRUNIN, A.P.

X-ray diffraction study of the compressibility of light substances
in oblique collisions of shock waves. Zhur. tekhn. fiz. 31
no.6:717-725 Je '61. (MIRA 14:?)
(X rays--Diffraction) (Shock waves)

24728

3,357/61/31/11/113
3416/2203

AUTHORS: Al'tshuler, L. V. and Petrunin, A. P.
TITLE: X-ray study of the compressibility of light substances in slanting collision of shock waves
PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 6, 1961, 717-725

TEXT: The present paper describes an X-ray method for studying regular slanting reflections and slanting collisions of shock waves in solids and liquids. The method serves for determining the pressures and densities in the region of stepwise "twofold" compression behind the front of reflected shock waves. The authors investigated light metals (magnesium, aluminum) and light-atom compounds diaphanous to X-rays (water, paraffin, plexiglass). They found, for all substances in the area of reflection, high densities and pressures of 100,000 - 900,000 kg/cm exceeding by a multiple the pressures of shock waves before collision. Reflections with relatively small angles of incidence of shock waves are studied. It is shown that the parameters of the incident waves and the angle formed by the front of the reflected shock wave with the reflection plane must be

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1728

S/057/61/031/005 112, 013
B116/B203

X-ray study of the compressibility ...

known to determine the parameters in the region of twofold compression. For determining this angle, the authors used the pulse radiography illustrating the momentary position of shock waves within the X-rayed specimen. To illustrate the method, they first study the collision of waves of the same intensity (reflection of a wave from an absolutely rigid obstacle)(Fig. 2). In regular reflection, the space above the reflecting wall is divided into three regions: "0" is the region of rest, "1" is the region of a single shock-compression between the fronts of the incident and the reflected wave, "2" is the region of twofold shock-compression between the front of the reflected wave and the obstacle. Fig. 2 shows the position of the incident and of the reflected wave for two points of time. q are the velocities of the substance flow. The following equations are written down:

$$D_{12} = D_1 \frac{\sin \beta}{\sin \alpha} + U_1 \cos(\alpha + \beta), \quad (1)$$

$$\Delta U_{12} = U_1 \frac{\cos \alpha}{\cos \beta}, \quad (2)$$

$$\lambda_2 = \sigma_1 \frac{D_{12}}{D_{12} - \Delta U_{12}}, \quad (3)$$

$$P_2 = P_1 + \rho_0 \sigma_1 D_{12} \Delta U_{12}, \quad (4)$$

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X-ray study of the ...

17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

D_1 is the velocity of the thickest shock wave, β_1 that of the reflected wave, U_1 is the velocity of the fluid in front of the incident wave, ΔH_{12} is the change in enthalpy in front of the reflected wave.

$\rho = \rho_2 / \rho_1$; $M_1 = U_1 / a_1$; ρ_1 is the density of the substance at rest, a_1 is the speed of sound in the fluid, respectively; p_1 is the pressure in "1".

It follows from (1) - (4) that the

parameters ... are determined by the parameters of the fluid, the angle of incidence α , and the reflection angle β . The parameters of the incident wave are found by usual dynamic methods. The parameters of the reflected wave are determined from the X-ray study of the reflection of shock waves. The authors also study the reflection of shock waves from an elastic obstacle [10].

It is shown that the ref. shock wave moves in parallel to the obstacle. The velocity of the ref. shock wave is given by the equation

$$\Delta H_{12} = U_1 \frac{\cos \alpha}{\cos \beta} \frac{\sin \epsilon}{\cos(\beta + \epsilon)} \left[\frac{D_1}{\sin \alpha} - U_1 \frac{\sin(\alpha + \beta)}{\cos \beta} \right] \quad (2a)$$

and ...

2. 07/61/01/000 11 13
B116, 2203

X-ray study of the ...

is written down for the ... can be determined, like ϵ , from the X-ray ... after the arrangement of experiments.

ϵ_2 was found ... the distance between the aluminum foils on the preparation ... is the distance between them on the explosion ... intensities of shock waves. The author ... of two aluminum foils 10 μ m thick, ... velocity of $U = 4.00$ km/sec. Fig. 1 ... generated by the ... of the aluminum foils ... from the pressure-velocity diagram ... dynamic similitude for the substances investigated ... The dynamic similitude for magnesium and aluminum ... by J. M. Walsh, M.H. Rice, R.G. McQueen, P.L. Walker, Ref. 2: Phys. Rev., 108, no. 2, 196-210, (1957) and L.V. Al'tshuler, S.I. Korner, A.M. Bakanova, R.F. Trunin (Ref. 3: ZhETF, 38, no. 4, 1961), and other water wave papers by J. M. Walsh, M.H. Rice (Ref. 4: J. Geophys. Res., no. 4, April, 1957) and L.V. Al'tshuler, A.A. Buzukov, R.F. Trunin (Ref. 5: DAN SSSR, 191, no. 1, 1958). The dynamic similitude ... was obtained by Yu. V. Aleksyeyev

Card 4/8

X-ray study of the compressibility of ...

and V. I. Krupnikova, and that for plates by A.A. Bakanova and R. F. Trunin. The data obtained are included. The authors thank professor V. A. Tsukerman for advice given, A. I. Kuz'mich and T. M. Ushakov for assisting in the experiments, and A.A. Bakanova for a discussion. There are 11 references, 4 Soviet-ones and 2 non-Soviet-ones.

SUBMITTED: July 14, 1966

Card 5/8

KOPYESKIY, G.Ya.; OKHAINETS, I.N.; PETRUKA, G.A.

Characteristics of the structure of nickel with a high
resistance to creep. Sber. nauch. trad. Inst. metallofiz.
AN URSR no. 20192-5. 1961. 10 p. (NBSA TR: 6

L 41360-65 EWP(k)/EWP(z)/EWA(c)/EWT(m)/EWP(b)/T/EWA(d)/EWP(t) Pf-4/Pad IJP(1)
ACCESSION NR: AP4048095 JD/HW S/0126/84/018/003/0454/0458 2
E

AUTHOR: Kozyrskiy, G. Ya.; Larikov, L. N.; Petrinin, G. A.; Shmatko, O. A.

TITLE: The effects of the degree of deformation on polygonization and recrystallization of nickel 1

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 3, 1984, 454-456

TOPIC TAGS: nickel deformation, polygonization, recrystallization, X ray analysis, metallographic examination

ABSTRACT: An investigation of the effects of deformation on the polygonization and recrystallization of Ni showed that the presence and the location of the point of intersection of the lines describing this relationship are conditional and affected by the choice of the quantitative characteristic of the two processes. Experiments were carried out with 99.99% pure Ni melted in argon. Specimens were compressed at different temperatures to 30-80%, annealed for 8 hrs. and examined by metallographic and X-ray method. The temperature at which the initial recrystallization nuclei attain 10^{-3} cm within eight hours was chosen as the quan-

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ACCESSION NR: AP4048095

titative characteristic for recrystallization and for polygonization--the temperature at which interference spots narrow by 25%. In Ni compressed by 80% the initial 10^{-3} cm nuclei appear at 280 C and X-ray interference lines narrow by 20%. The findings of the authors stand in good agreement with other papers. Orig. art. has: 3 figures

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Metal Physics, AN UkrSSR)

SUBMITTED: 15Oct83

ENCL: 00

SUB CODE: MM

NO REF SOV: 007

OTHER: 003

cc
Card 2/2

ACCESSION NR: AT4010693

S/2601/63/000/017/0089/0097

AUTHOR: Kozy*rsldy, G. Ya.; Petrunin, G. A.

TITLE: The effect of polygonization and recrystallization on the creep of nickel

SOURCE: AN UkrRSR. Insty*tut metalofizy*ky*. Sbornik nauchny*kh trudov, no. 17, 1963. Voprosy* fiziki metallov i metallovedeniya, 89-97

TOPIC TAGS: Creep, polygonization, recrystallization, deformation nickel, nickel creep

ABSTRACT: In some pure metals, among them nickel, creep occurs during polygonization. Röntgenographic and metallographic investigations of polycrystalline samples of annealed-nickel tested for creep showed that during the process of creep a polygonized structure was formed, as a result of which, resistance to creep increased. The speed of creep and time before disintegration depended on the degree of deformation from the initial polygonized structure of the samples. It depended also on the intensity of the process of polygonization and recrystallization taking place during creep. The intensity of these processes was determined to a considerable degree by the temperature and the initial structure. If the metals were strengthened, either as a result of previous deformation

Card 1/3

ACCESSION NR: AT4010693

or during the stage of incomplete creep, then during further creep a return to recrystallization was observed. If the initial deformation was sufficiently small, then during annealing which followed the deformation, a state of stable polygonization was reached which prevented recrystallization. In the cases when the initial deformation was sufficiently large, recrystallization occurred simultaneous with polygonization. This and other data were interpreted as follows: the polygonized structure formed during creep of before the test slowed down the process of creep; the maximally stable state of polygonization was obtained by a previous deformation equal to 2.9%; these samples had the lowest degree of creep and highest degree of durability. On the basis of investigations described in the article, the authors reached the following conclusions: (1) The stability of the initial polygonized structure during creep depends on the degree of previous deformation. (2) With an optimal degree of previous deformation the most stable state of polygonization is obtained. This polygonization has the highest resistance to creep and recrystallization. (3) Substructures formed as a result of deformations which differ from the optimal deformation have less resistance to recrystallization and creep. Orig. art. has: 6 figures and 1 table.

Card

2/3

ACCESSION NR: AT4010693

ASSOCIATION: Insty*tut metalofizy*ky* AN Ukr RSR (Institute of the Metallurgical Physics
AN Ukr RSR

SUBMITTED: 00

DATE ACQ: 31Jan64

ENCL: 00

SUB CODE: SS, MM

NO REF SOV: 005

OTHER: 005

Card 3/3

KOZYRSKIY, G.Ya.; PETRUNIN, S.A.

Effect of polygonization and recrystallization on the creep of
nickel. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.17:89-
'63. (MIRA 17:3)

PETRUNIN, G. A.

AID Nr. 984-13 6 June

CREEP OF NICKEL (USSR)

Kozyrskiy, G. Ya., and G. A. Petrunin. IN: Akademiya nauk UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 16, 1962, 39-43.

S/601/62/000/016/005/029

The effect of the degree and temperature of prestraining on the creep behavior of 99.99% pure Ni vacuum annealed at 1100°C for 3 hrs has been studied. The effect of the prestrain temperature was studied on specimens prestrained by 6% at 20, 350, 550, or 700°C. Results of creep tests at 550°C under a stress of 6 kg/mm² show that with an increase in prestrain temperature from 20 to 350, 550, and 700°C, rupture life decreases from 60 to 52, 21, and 17 hrs, respectively; the duration of second-stage creep decreases from 55 to 50, 19, and 6 hrs, respectively; and the second-stage creep rate increases from 0.04% at 20 and 350°C to 0.23 and 0.5% at 550 and 700°C, respectively. Creep tests (under the same conditions as above) of the specimens prestrained at a constant temperature of 550°C by 2.5, 2.9, 6, and 13% showed

Card 1/2

AID Nr. 984-13 6 June

CREEP OF NICKEL [Cont'd]

8/601/62/000/016/005/029

that a 2.9% prestrain increased the average rupture life from 20 hrs for annealed specimens to 80 hrs, while a 6% prestrain reduced it to 20 hrs again, and a 13% prestrain to less than 20 hrs. A similar pattern of creep behavior was observed in tests at 700 and 900°C with specimens prestrained at 20°C. The optimum degree of prestrain found was to be 2.8% for 700°C and 1.4% for 900°C. Thus, for each temperature there is an optimal degree of prestraining resulting in the highest heat resistance. [MS]

Card 2/2

KOZYRSKIY, G.Ya.; PETR'ININ, G.A.

Effect of the degree and temperature of prestressing on the creep
of nickel. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.16:
39-43 '62. (MIRA 1b:5)
(Nickel--Hardening) (Creep of nickel)

S 601 62 000 014 009 012
1003 1203

AUTHORS Kozyrskiy, G. Ya. and Petrunin, G. A.
TITLE Deformation of grains located on the surface and within polycrystalline samples during creep tests
SOURCE Akademiya nauk Ukrains'koyi RSR. Instytut metalofizyky. Sbornik nauchnykh rabot no. 14. Kiev, 1962. Voprosy fiziki metallov i metallovedeniya. 78-83.

TEXT The usual accepted method for judging the structural changes taking place in metals during creep tests by investigations carried out on the surface of the samples is erroneous, as the surface grains with one or more free faces are under different conditions than those lying beneath the surface, especially at elevated temperatures. In the present work the authors investigated by X-ray and by metallographic methods whether the deformation of the surface grains in the samples is the same as that in the grains lower down, when the total deformation in 99.99% pure nickel samples is 5 to 7%, as result of creep test. The structure of the grains lying 2 mm beneath the surface was investigated after cutting the sample and electrolytically removing the cold-worked surface. The conclusion is drawn that the mean deformation of grains on and beneath the surface is the same. There are 2 tables and 1 figure.

Card 1 1

KOZYHSKIY, G.Ya.; LASHKOV, L.N.; MATROUNIN, V.A.; SEMATA, . . .

Effect of the degree of reformation on the polycondensation and re-
crystallization of nickel. Fiz. met. i metalloved. 18 no.3:454-456
S 1964. ISSN 0013-788X

1. Institut metallofiziki AN "SSSR".

MAMON, L.I., kand.tekhn.nauk; POTAPOV, A.G.; PETRUNIN, G.P.

Packing for rotating shafts of centrifugal pumps in chemical sections of by-product coke plants. Koks i khim. no.10:53-55 '57. (MIRA 10:11)

1. Dnepropetrovskaya mezhhoblastnaya partiynaya shkola (for Mamon).
2. Dnepropetrovskiy khimiko-tekhnologicheskii institut (for Potapov).
(Centrifugal pumps) (Packing (Mechanical engineering))

MAMON, L.I., kand.tekhn.nauk; PETRUNIN, G.P.

Stepless regulation of the number of turns of a rotor in NGP-800
x 400-type centrifuges. Koks i khim. no.6:57-59 '60.
(MIRA 13:7)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.
(Ammonium sulfate) (Centrifuges)

L 20783-66 EWT(m)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6 IJP(c)
ACC NR: AP6004646 FM/WW/JD/WB SOURCE CODE: UR/0383/65/000/005/0045/0047

AUTHOR: Fomichev, I. A.; Petrunia, G. P.; Furasov, M. D.; D'yachenko, R. I. 58
56

ORG: none

TITLE: Machine for depositing polymeric protective coatings onto steel tubes per-
forming in aggressive media 15 44/45 B

SOURCE: Metallurgicheskaya i gornorudnaya promyshlennost', no. 5, 1965, 45-47

TOPIC TAGS: protective coating, polymer, metal tube, corrosion/MPTSh 102/42 tube
coating machine

ABSTRACT: The replacement of expensive and scarce tubes of stainless steels and non-ferrous and precious metals with tubes of ferrous metals having protective coatings of polymeric materials resistant to aggressive media is currently being extensively investigated. In this connection, the authors describe the newly designed MPTSh 102/42 machine for coating with polymeric materials the internal surface of seamless steel by the extrusion method (Fig. 1). The operating principle of the machine is such that the screw conveyer extrudes the paste of polymeric material into the barrel of a rotating tube, or more exactly into the annular cavity between the mandrel and the tube, thus coating the internal surface of the tube with a uniform layer of the paste. Automatic pickups trigger and halt the feeding of the paste and the removal of the coated tube and mounting of a new tube onto the conveyer table. Laboratory

Card 1/4

UDC: 621.774:621.793:678.5

L 20783-66

ACC NR: AP6034646

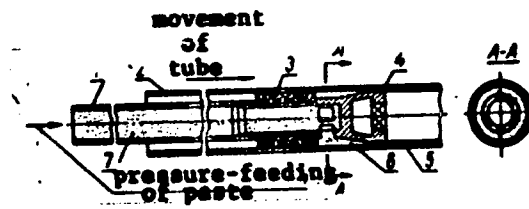


Fig. 1. Diagram of the deposition of protective coating
1 - hollow rod; 2 - tube being coated; 3 - compacting disks; 4 - mandrel;
5 - coating; 6 - cavity for paste; 7 - paste in hollow rod

Card 2/4

L 20783-66

ACC NR: AP6004646

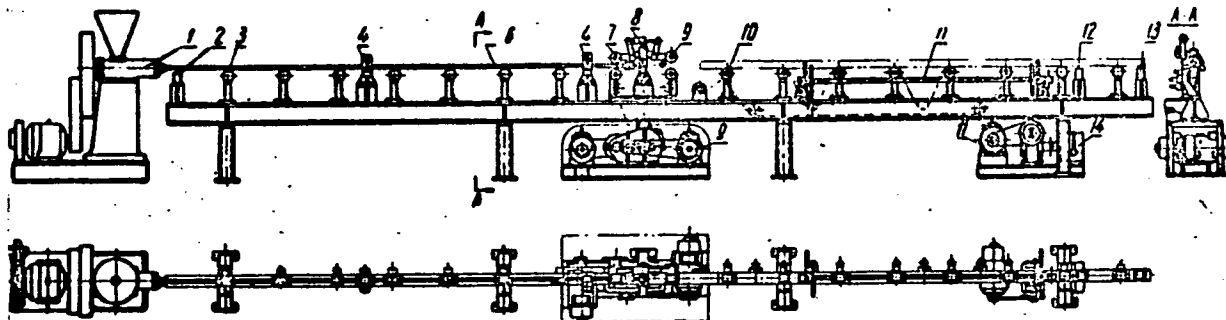


Fig. 2. General view of the MPTSh/42 machine:

1 - screw extruder; 2 - contactless pickup; 3 - guide table; 4 - collar plate;
5 - frame; 6 - hollow rod; 7 - mandrel; 8 - collar plate; 9 - tube-moving
mechanism; 10 - tube-feed table; 11 - mechanism for feeding and removing of
tubes; 12 - contactless pickup - 2; 13 - contactless pickup - 3; 14 - automatic
controller

Card 3/4

L 20783-66

ACC NR: AP6004646

2
and operating trials of this machine produced positive results with respect to tubes of various diameters and of a length of up to 7 m. The machine can deposit a 1-mm thick coating on 100 tubes of 42-mm diameter per hour or on 48 tubes of 102-mm diameter per hour. The thickness of the coating can be adjusted from 0.5 to 2 mm. This method of tube-coating can be employed as a protection against corrosion and as a means of prolonging the service life of tubes, provided that the coating material is applied in the form of a paste. Currently the Dnepropetrovsk Institute of Chemical Technology, in collaboration with the Dneprodzerzhinsk Nitrogenous Fertilizers Plant, is performing operating trials of the thus coated pipe in pipelines for the transport of aggressive fluids; this should prove to be a conclusive test. Moreover, it has been established that eventually the machine can be adjusted to coat pipe segments reaching 12 m in length. Orig. art. has: 2 figures.

SUB CODE: (), 11, 13/ SUBM DATE: none/ ORIG REF: 000/ OTR REF: 000

Card 4/4

L 41747-66 ENT(m)/EWP(w)/T/EWP(t)/ETI LIP(c) JD/HW
 ACC NR: AF6018041 A SOURCE CODE: UR/0185/66/011/006/0675/0677

AUTHOR: Kozyrs'kyi, H. Ya.--Kozyrskiy, G. Ya.; Petrunin, H. O.--Petrunin, G. A. 71

ORG: Institute of Metal Physics, AN UkrSSR, Kiev (Instytut metalofizyky AN URSSR) B

TITLE: Effect of the prestressing temperature on the final structure and on the resistance of nickel to creep

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 11, no. 6, 1966, 675-677

TOPIC TAGS: nickel, creep, crystal lattice structure, temperature dependence, high temperature strength

ABSTRACT: The purpose of the investigation was to determine the influence of the prestressing temperature on the disorientation of the substructure elements of nickel and to ascertain the effect produced as a result on the behavior of the nickel in creep. Nickel 99.99% pure was tested at 700C and a load of 2.5 kg/mm². The samples were prepared and their structure tested with x-rays by a procedure described earlier (G. Ya. Kozyrskiy et al., Issledovaniya po zharoprochnym splavam, v. VI, Izd-vo AN SSSR, 1960, p. 17). The nickel was deformed by tension to different degrees, from 0 to 4%, at temperatures -196, 20, and 300C at a rate of 4×10^{-3} sec⁻¹. Before the prestressing the samples were annealed at 1100C for 4 hours and cooled slowly. Mechanical tests have shown that the best endurance to creep was exhibited by samples prestressed at 300C to 3%, or those prestressed at -196 and 20C to 2%. The results are discussed in light of data on the substructure elements produced in the nickel.

Card 1/2

OSTROVSKIY, I.I., inzh., red.; GRIGOROV, I.I., inzh., red.;
MURASHEV, A.G., inzh., red.; FECHURCHIK, S.A., inzh.,
red.; VEDEKIN, S.I., inzh., red.; KUDINOV, M.F., inzh.,
red.; YELISEYEVA, Ye.Ye., inzh., red.; PETRUNIN, I.S.,
inzh., red.; TURIALSKIY, M.A., inzh., red.; POZDNYAKOVA,
L.L., inzh., red.; KOKOV, K.V., inzh., red.

[Collections Nos. 5, 6, 14, 43 of standard district uniform
estimates for construction work] Sborniki No. 5, 6, 14, 43
edinykh rabotnykh edinichnykh raschenok na stroitel'nye
raboty. Moskva, Stroizdat, 1965. 86 p. (MIRA 18:8)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po de-
lam stroitel'stva. 2. Gosstroy SSSR (for Ostrovskiy, Vedenkin,
Kudinov). 3. Nauchno-issledovatel'skiy institut ekonomiki
stroitel'stva Gosstroya SSSR (for Grigorov, Murashev, Petrunin,
Yeliseyeva, Turianskiy, Pozdnyakova). 4. Gosudarstvennyy insti-
tut po proyektirovaniyu predpriyatiy tsvetnoy metallurgii (for
Fechurchik). 5. Gosudarstvennyy proyektnyy institut po proyektiro-
vaniyu predpriyatiy tsvetnoy promyshlennosti (for Kokov).

PETRUNIN, I.Ye., kand. tekhn. nauk

Review of R.Z. Esenbergin's book "Metal soldering in furnaces
with a gaseous atmosphere." Svar. proizv. no.1:43-44 Ja '64.
(MIRA 17:1)

PETRUNIN, I.Ye., kand.tekhn.nauk; KOMAROV, V.M., inzh.

"Metal soldering in furnaces with protective atmospheres" by
R.E.Esenberlin. Reviewed by I.E.Petrinin. Svar.proizv.
no.8:43 Ag '60. (MIRA 13:7)
(Solder and soldering)
(Metallurgical furnaces--Protective atmospheres)
(Esenberlin, R.E.)

PETRUNIN, A.M.; PETRUNIN, I.Ye.

Testing friction ceramic metals for their strength of adherence to
steel frames. Zav. lab. 27 no. 4:461 '61. (MIRA 14:4)
(Ceramic metals) (Adhesion)

QUALITATIVE ANALYSIS OF THE POLYMERIZATION OF VINYL
MONOMERS IN THE PRESENCE OF CATIONIC POLYMERIZATION

1. The polymerization of vinyl monomers in the presence of
pyridate of various natural products. Study No. 1000
31-37 164.

SEMENOV, S.S.; KOBYL'SKAYA, M.V.; KUZNETSOVA, O.A.; SOLOV'YEV, Yu.A.;
ZAV"YALOV, V.G.; MASHIN, V.N.; VELITSKAYA, O.Ya.;
PETRUNIN, M.M.; RIF, L.L.

Starting a pyrolysis unit for chamber gasoline in the V.I.
Lenin Oil Shale Processing Combine. Trudy VNIIT no.12:64-68
'63. (MIRA 18:11)

VISHNYAKOVA, Ye.S., inzh.; RUMYANTSEVA, N.F., inzh.; BORONICHEVA, G.A.,
inzh.; PITINOVA, L.V., inzh.; PETRUNIN, N.I., inzh.; MESKIN,
I.M., inzh.; ANDREYEVA, L.P., inzh.; BISHENKEVICH, G.V., inzh.;
RYABININA, A.I., inzh.; MOSHNIN, N.S., red. gazety; KORKOV,
A.I., otv. red.; YUNITSKIY, V.P., red.; FLIGEL'MAN, S.M., red.;
ROZHDAYKINA, V., tekhn. red.

[Kalinin Artificial Fiber Combine]Kalininskiy kombinat iskus-
tvennogo volokna. Kalinin, Kalininskoe knizhnoe izd-vo, 1960.
92 p. (MIRA 15:8)

1. Kalininskiy kombinat iskusstvennogo volokna. (for all except
Korkov, Yunitskiy, Fligel'man, Rozhdaykina).
(Kalinin--Textile fibers, Synthetic)

1960/00, 000 004 007, 0 0 1
R004/B075

AUTHORS: Meskina, E. I., Fikhman, V. D., Petrushin, A. I.
Tsar'kova, A. V.

TITLE: Ways for Reducing the Consumption of Dimethyl Formamide in
the Production of Nitron Fiber

PERIODICAL: Khimicheskiye volokna, 1960, No. 4, pp. 13-18

TEXT: The authors attempted to determine the losses in dimethyl formamide (DMF) in the individual stages of the production of Nitron fiber and the possibilities of reducing these losses. They experimentally studied the hydrolysis of DMF at 100°C in 25, 60, and 92% aqueous solution. A KU-1 (KU-1) cation exchanger was used for analyzing the mixture. To study the effect of impurities on the hydrolysis, it was studied also with additions of 0.17% oxalic acid, and admixtures of stainless steel of type 1X19N9T (1Kh19N9T) (this steel is used for the construction of apparatus in which Nitron fiber is precipitated). The experimental results are given in Fig. The loss in DMF due to the hydrolysis at 100°C was estimated to 0.02% kg, at 80°C to 0.001 kg per kg of fiber. Furthermore, the authors studied the

Card 1/5

Ways for Reducing the Consumption of Dimethyl Formamide in the Production of Nitron Fiber 01/03/66/000,000 11-11-66 B004/B073

effect of various rectification methods on the DMF losses. They found that the rectification of the mixture water-DMF in vacuo at only 90-100°C considerably reduces hydrolysis. A general calculation of the DMF losses in the individual divisions of the pilot plant (in kg per kg of fiber) yielded the following results:

spinning division and chemical division	0.09-0.10
rectification	0.04-0.07
vacuum distillation	0.06-0.07
	<hr/>
	0.20-0.24

The DMF losses in the chemical division and the spinning division consist of the loss occurring when changing the filters (0.018 - 0.032 kg/kg of fiber) and the amount of DMF carried along by the fiber (0.006-0.02 kg/kg). These losses can be reduced to 0.001 kg/kg by additional washing. Further losses were caused by the removal of DMF by ventilators. These losses are due to the insufficient packing of the apparatus in the chemical division. They can be completely eliminated. In the spinning division, however, the evaporation of DMF cannot be avoided. This loss is estimated to 0.112 kg/kg. The authors discuss the regeneration of DMF from the ventilator air of the spinning division. T. M. Ivanova, collaborator of the first association.

Card 2/5

Ways for removing the DMF impurity from Nitron 3/183/66, 666/014, 015, 016
Formamide in the Production of Nitron Fiber B004/B075

has already studied adsorption by means of charcoal which proved to be inadequate. On the basis of the equilibrium curve of vapor pressure of DMF above water, absorption of DMF by water is suggested. The water in the distillation column of the rectifier division is capable of absorbing up to 90% of DMF contained in the ventilator air. Considering the possible improvements, the following conclusions are drawn:

DMF losses, kg/kg Nitron chemical division	0.01 - 0.015
by the fiber	0.001
spinning division	0.04 - 0.045
regeneration	0.05 - 0.05
other losses	0.009 - 0.009
	<u>0.11 - 0.13</u>

The following can be regenerated in the absorption of DMF from ventilator air by means of water:

	<u>0.035 - 0.04</u>
remaining loss	0.075 - 0.09

There are 4 figures, 4 tables, and 4 references: 3 Soviet and 1 German.

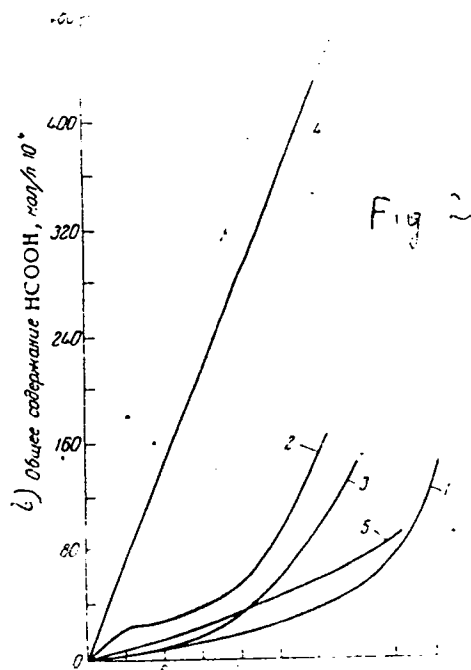
Card 3/5

Ways for Reducing the Consumption of Dimethyl S/183/60/000, 002 01 01 12
Formamide in the Production of Nitron Fiber B004/B075

ASSOCIATION: Kalininskiy filial VNIIV (Kalinin Branch of the All-Union
Scientific Research Institute of Synthetic Fibers) Moskva
z. I., Fikhtman, V. B.; Eksperimental'nyy zavod VNIIV
(Pilot Plant of the All-Union Scientific Research Institute
of Synthetic Fibers) Petromin, N. I., Tsar'kov, A. V.

Legend to Fig. 2: 1) 80% solution of DMF without additions; 2) 80% solution
of DMF without additions; 3) 60% DMF with addition of stainless steel
of the type 1Kh18N9T; 4) 60% DMF with addition of oxalic acid (0.1% calculated
for DMF); 5) 92% DMF without addition; a) hours, b) total content of
 $\text{HCOOH mol}/1 \cdot 10^4$.

Card 4/5



Card 5/5

BOROVSKAYA, V.G., kand.med.nauk; PETRUNIN, P.F.

Functional state of the adrenal cortex, content of blood proteins and some other biochemical indices in patients with eczema. Vest. dermat. i ven. 37 no.2:21-25 P'63. (MIRA 16:10)

1. Iz Ukrainского kozhno-venerologicheskogo instituta (dir. dotsent A.I.Pyatikop).

*

PETRUNIN, P. F., mladshiy nauchnyy sotrudnik

Pathogenesis, clinical aspects and treatment of lipoid necrobiosis
of the skin. Vest. dermat. i ven. no.2:35-42 '62. (MIRA 15:2)

1. Iz kozhnogo otdela (zav. - prof. Z. N. Grzhebin[deceased])
Ukrainskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo
instituta (dir. - dotsent A. I. Pyatikop)

(SKIN--DISEASES) (LIPIDOSIS)

NIKOLAYEV, Georgiy Alekseyevich; PETRUNIN, Rudolf Valentinovich;
YAREMENKO, Yakov Danilovich; LEBEDKINA, Zoya Stepanovna;
KOVERDA, Pavel Trofimovich; SERGEYEV, Ya.L., red.;
KUDRYAVITSKAYA, A.A., tekhn. red.

[Work of volunteer constructor offices in introducing inventions] Rabota obshchestvennykh konstruktorskikh biuro po vnedreniiu izobretanii. Moskva, TSentr. biuro tekhn. informatsii, 1962. 38 p. (MIRA 17:..)

STREPIKHEYEV, Yu.A.; PETRUNIN, V.A.

Synthesis of α,α -trichloroalkyl- ω -isocyanates and
 α,α -dichloroalkenyl- ω -isocyanates. Zhur. VKHO 7
no.6:702-703 '62. (MIRA 15:12)

1. Moskovskiy khimiko-tekhnologicheskij institut imeni
D.I. Mendeleyeva.
(Isocyanic acid)

PETRUNIN, V.D., fel'dsher

Velamentous insertion of a short umbilical cord. Fel'd. i akush.
23 no.10:33-34 0 '58 (MIRA 11:11)

1. Ovsorokskaya uchastkovaya bol'nitsa Kaluzhskoy oblasti.
(UMBILICUS--ABNORMITIES AND DEFORMITIES)

PETRUNIN, V.D., fel'dsher (selo Obsorok Kaluzhskoy oblasti)

Dispensary service for the rural population. Fel'd. 1 akus. 27
no.3:43-44 Mr '62. (MIRA 15:4)

(RURAL MEDICINE)

PETRUNIN, V.D., fel'dsher (selo Ovsorok Kaluzhskoy oblasti)

Improving the work of the medical and obstetrical station.
Fel'd. i akush. 27 no.4:42-44 Ap '62. (MIRA 15:0
(MEDICAL CASE)

PEL'RUNIN, V.D., fel'dsher (selo Ovsorok Kaluzbskoy oblasti)

Prolapse of the cord. Fel'd. i akush. 23 no.7:51 J1'58 (MIRA 11:8)
(LABOR, COMPLICATED)
(UMBILICUS)

PETRUNIN, V.D. ~~fel'dsher~~ (selo Ovsorok Kaluzhskoy oblasti)

Layout and equipping of the collective farm maternity home. Fel'd 1
akush. 24 no.8:41-43 Ag '59. (MIRA 12:12)
(MATERNITY HOMES)

PETRUNIN, V.D., fel'dsher (selo Ovsorok Kaluzhskoy oblasti)

Our experience in trying to reduce the number of stillbirths.
Fel'd. i akush. 23 no.6:51-52 Je '58 (MIRA 11:6)
(STILLBIRTH)

L 26449-66 EWT(m) JD/JG

ACC NR: AP6017370

SOURCE CODE: UR/0363/66/002/003/0464/0466

AUTHOR: Semenkov, V. A.; Petrunin, V. F.; Sokolovskaya, Ye. M.; Mefedov, A. P. 40ORG: Institute of Atomic Energy im. I. V. Kurchatov (Institut atomnoy energii) BTITLE: Structure of the TaV sub 2 phaseSOURCE: AN SSSR. ^{21 27} Izvestiya. Neorganicheskiye materialy, v. 2, no. 3, 1966, 464-466

TOPIC TAGS: neutron beam, neutron diffraction, tantalum alloy, vanadium alloy, iron compound, silicide

ABSTRACT: The alloy TaV_2 was studied on a neutron diffractometer using a monochromatic neutron beam ($\lambda = 1.12\text{\AA}$) obtained from a focusing iron²⁷ silicide monochromator crystal. At 900°C the TaV_2 phase is of the Laves phase of the M_2Cu_2 type with $a = 7.16\text{\AA}$. On comparing neutronographic data with earlier conducted x-ray investigations the conclusion can be made that TaV_2 has two polymorphic modifications: low-temperature M_2Cu_2 type and high-temperature $MgZn_2$ type. Orig. art. has: 1 figure and 1 table. [JPES]

SUB CODE: 11, 20 / SUM DATE: 08Jul65 / ORIG REF: 006 / OTH REF: 003

Card 1/1 PB

UDC: 546.883'881

1930, 1. 2.

Krasovaya obozracheniye detyarekh profilei rotora avtomobila. (Izv. Vuzov, 1930, no. 24, p. 4-22, illus., tables, diagrams.)
Summary in English.

Title tr.: Wind Tunnel tests of an auto-rotor airfoil rotated through 30° in a plane of its setting.

1930, no. 24

S : Aeronautical Sciences and Aviation in the Soviet Union, 1930-1935
In press, 1935.

PERSONNEL, ...

Issledeniya v aerodinamicheskoi trubke otseka klapna avtomata v
nature. (Zh. V. Vuzov, 198, no. 28, p. 23-3, illus., tables,
diagrams.)

Summary in English.

Title tr.: Wind tunnel tests of full-scale section of an automatic
rotor blade.

Aviatsiya, no. 28

Source: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1988.

ARTAMONOV, B.P.; EUGREYeva, Ye.V.; PETRUNIN, V.I.

Wide-range high frequency conductometer. Zhur. fiz. khim. 39 no.3:796-
801 Mr '65. (MIRA 18:7)

1. Leningradskiy khimiko-farmatsevticheskiy institut.

L 26659-65 EWT(m)/EPA(w)-2/ENA(m)-2 Pt-10/Pab-10 IJP(e)

ACCESSION NR: AT5002705

S/3092/64/000/002/0003/0013

AUTHOR: Petrinin, V. I.

34
30
B+1

TITLE: On the possibility of obtaining proton bunches with small momentum scatter

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury. Elektrofizicheskaya apparatura; sbornik statey, no. 2, 1964, 3-13

TOPIC TAGS: proton acceleration, particle acceleration, proton bunch, momentum spread, double bunching

ABSTRACT: In view of the harmful effect of momentum scatter of proton bunches injected in accelerators, the author investigated the operation of a double buncher, where the velocity scatter produced by the first buncher is compensated by a second buncher which is installed at the input of the accelerator and is suitably phased

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L 26659-65

ACCESSION NR: AT5002705

with the first buncher. The analysis is confined to proton accelerators, inasmuch as the effect of space charge in such accelerators is much smaller than in electron accelerators. It is shown that a monochromatic beam can be obtained either by properly choosing the frequency of the second resonator or by varying the particle energy, the latter being easier to realize. A formula is derived for the reduction in the size of the drift section due to the use of the double bunching, and it is found that the reduction can reach a factor 5--8. It is pointed out that for large current densities the calculation must be made more precise, using for example the method proposed by German and Kompaneyets (Zh. Tekhn. fiz. no. 3, 1956). Orig. art. has: 6 figures and 40 formulas.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF SOV: 001

OTHER: 000

Card 2/2

3

L 00946-66 EWT(m)

ACCESSION NR: AT5015937

UR/3092/65/000/003/0051/0063

AUTHOR: Davydov, M. S.; Zeytlenok, G. A.; Levin, V. M.; Malyshev, I. F.
Petelin, L. G.; Petrunin, V. I.; Trushin, N. F.; Finkel'shteyn, I. I.

TITLE: Problems of constructing the deflecting system of a 5-Gev antiproton channel 79

SOURCE: Moscow, Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury, Elektrofizicheskaya apparatura; sbornik statey, no. 3, 1965, 51-63

TOPIC TAGS: antiproton, antiproton isolation

ABSTRACT: The construction principles of an antiproton-isolating r-f deflecting system are set forth. Calculations showed that the most expedient deflecting system should comprise a set of independently-phased single-gap quasi-toroidal resonators operating at the fundamental wave mode, the deflection being accomplished by an electric r-f field. The deflection system of the OIYaI 5-Gev

Card 1/2

L 0094C-66

ACCESSION NR: AT5015937

antiproton channel designed along the above lines (details given) has these characteristics: 16 rectangular-deflecting-area resonators; resonance frequency, 150 Mc; Q-factor, 15000 or higher; shunt resistance, 0.8 Mohms; power loss in one resonator is 60 kw and in the entire deflecting system, 1 Mw at a rated electric-field strength of 31.2 kv/cm. All resonators are mounted in a 3-section 14-m long 1.5-m diameter vacuum tank. The resonators are connected to their feeders via vacuum lead-ins and two-loop matchers. A separate-excitation 1.5-Mw vhf oscillator produces 6- μ sec pulses at a repetition rate of 5 p/min. Orig. art. has: 12 figures and 6 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: NP, BC

NO REF SOV: 005

OTHER: 001

Card 2/2 *AP*

ACC NR: KTC031754

SOURCE CODE: UR/109.71/109.71/000/0007

AUTHOR: Petrunin, V. I.

ORG: None

TITLE: Dynamics of electron movement on the multipactoring effect with the space charge taken into consideration

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury. Elektrofizicheskaya apparatura, no. 4, 1976, 30-37

TOPIC TAGS: mathematic analysis, electron motion, electron scattering, space charge

ABSTRACT: The mathematics of electron movement is developed to describe the movement and the deformation of the cluster in the gap $p(x)$. The radial divergence of the cluster is taken into consideration by compensation focusing. The longitudinal movement of the electron cluster is described mathematically and the results are plotted in the form of curves. The phase limit for electron leakage and phase stability are calculated and the latter is plotted. Orig. art. has: 25 formulas and 7 figures.

SUB CODE: 20,12/SUBM DATE: None/ORIG REF: 001

Card 1/1

GORYUNOV, N.S., kand.tekhn.nauk. PETROVIN, V.M., inzh. (g.Dzhambul)

Corn irrigation in Kazakhstan. Gidr. i mel. 16 no. 3-23-32

Mr. [unclear]

(S) [unclear]

GANZ, S.N.; PARKHOMENKO, V.D.; PETRUNIN, Ye.P.

Device for study of the antifriction properties of materials
in corrosive media. Zav. lab. 29 no.6:763-764 '63.
(MIRA 16:6)

1. Dnepropetrovskiy khimiko-tehnologicheskij institut.
(Testing machines) (Friction materials)

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ACC NR: AR6035421

SOURCE CODE: UR/0137/66/000/009/DO43/DO43

AUTHOR: Zhukovskiy, B. D.; Zil'bershteyn, L. I.; Yankovskiy, V. M.; Petrunin, Ye. P.; Guzevataya, L. I.

TITLE: Preparation of welded titanium tubing stock for cold working

SOURCE: Ref. zh. Metallurgiya, Abs. 9D281

REF SOURCE: Sb. Proiz-vo trub. Vyp. 16. M., Metallurgiya, 1965, 53-58

TOPIC TAGS: titanium, seam welding, weld defect, heat treatment, temperature dependence, cold working, flaw detection

ABSTRACT: To determine the continuity of the welded seam, the samples were subjected to x ray flaw detection, which showed that there were no flaws in the welded seam. The samples of the obtained tubes withstood tests for flattening until the tube walls came in contact. To eliminate residual stresses occurring during the manufacture of the welded tubes, heat treatment must be employed. The influence of the tube heat-treatment temperature on the residual stresses was investigated in the temperature interval 550 - 750° in steps of 50°. After determining by the method of N. N. Davidenkov the residual stresses in tube samples annealed at different temperatures, the authors established that heat treatment at 700 - 750° eliminates the stresses almost completely. Cold reworking of the obtained tube to dimensions 60 x 0.16, 48 x 0.16, and 48 x 0.2 mm has shown that the metal consumption is appreciably reduced and the number of passages is less than in cold working of seamless tubes, thus providing the

Card 1/2

UDC: 621.774.21: 621.791.7

ACC NR: AR6035421

advantages of using welded tubes of technical titanium as stock parts. 5 illustrations, 1 table. L. Kochenova [Translation of abstract]

SUB CODE: 11, 13

Card 2/2

THE KAVCEN, G. G., PAN. (MOL. NAME: ...)
LIT. ...
Original ...
G.I.; GANICH, V.I.; PITYAY, A.I.; YNAG, M.M.; ...
DEMYANOV, G.M.; ...

Investigating the possibility of manufacturing welded tube
blanks for cold forming. ...

(M17 ...)

ESTRUCHA, M. E.

Mangel-Wurzel

Characteristics of hybrids of the sugar and feed beet., Fern. Anz., 2, 1911, 1-11.

9. Monthly List of Russian Accessions. Library of Congress, April 1916 (1916). 11p.

KOTEL'NIKOV, Viktor Nikolayevich, kand.tekhn.nauk; LIKUMOVICH, Khatskel'
Khaimovich, kand.tekhn.nauk; PETRUNINA, Mariya Matveyevna, inzh.;
SHVETSOVA, Tamara Petrovna, inzh.; FINGER, A.M., prepodavatel'
tekhnikuma, retsenzent; STESHOV, I.I., inzh., nauchnyy red.; GRACHEVA,
A.V., red.; PLEMYANNIKOV, M.N., red.; MEDVEDEV, L.Ya., tekhn.red.

[Technology of shoe manufacturing] Tekhnologiya obuvi. Moskva, Gos.
nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1959. 602 p.
(MIRA 13:3)

(Shoe manufacture)

PETRUENIA, S.P.

Answer to T. I. Eroshovskii's discussion on the article, Cause of displacement of the transplant following partial free transplantation of the retina. Vest. oft., Moskva 32 no.4:38-40 July-Aug 1953. (OJML 25:1)

1. Candidate Medical Sciences. 2. Of the Eye Division of Voroshilovgrad Oblast Hospital.

1. PETRUNIA, S. P.
4. Cornea
7. On the displacement of a transplant in partial penetrating keratoplasty. Vest. oft. 32, no. 1, 1953.

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

PETRUNIC, A

PETRUNIC, A.

Yugoslavia (430)

Technology

Portland cement in the petroleum industry p. 3. NAFTA. vol 3, no 12, Dec 1951

East European Accessions List. Library of Congress. Vol 2, no 3, March 1953.
UNCLASSIFIED.

ОСНОВ, V.I.; PETRUN'KIN, A.M.

Classical calculation of the probability of excitation and
ionization of atoms by electronic impact. Opt. i spektr. 14
no.4:457-464 Ap '63. (MIRA 16:6)

(Collisions(Nuclear physics))

ЗОЛОТАВИН А.В. ПЕТРУН'КИН А.М.

ZOLOTAVIN, A.V.; PETRUN'KIN, A.M.; KHALKIOPOVA, N.N.

Using high sources in ~~double-focusing~~ beta spectrometers.

Prib.1 tekhn.eksp. no.6:27-30 N-D '57. (MIRA 10:12)

1.Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.
(Spectrometer)

Petrunichev, V.A.

135-58-4-6-13

AUTHOR: Petrunichev, V.A., Engineer

TITLE: Arc Heat Flow Distribution in Welding Under Flux (O raspre-
delenii teplovogo potoka dugi pri svarke pod flyusom)

PERIODICAL: Svarochnoye Proizvodstvo, 1958 Nr 4, pp 19-22 (USSR)

ABSTRACT: Research on heat flow distribution performed by I.D. Kula-
gin refers only [Ref 1] to surface welding arcs moving
with a high speed - up to 1,500-m/hour. A new method to
investigate the heat flow distribution of a powerful arc
penetrating into the depth of the fusion zone was developed
on the basis of the Rykalin and Kulagin methods. The
article contains a detailed description of the technology
of experiments and gives the mathematical computations
[Ref 2]. Processes of heat flow distribution are illu-
strated by schematic drawings, diagrams and a table. A
formula for determining the shape of a normally elliptical
heat source moving on a flat metal layer is also given.
The following conclusions were made: heat-flow distri-
bution depends on the parameters of the welding process
under flux. Increased current, higher arc voltages and a
reduced welding speed decrease the concentration of heat-
flow. The arc, penetrating into the base metal, causes

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Arc Heat Flux Distribution in Welding Under Flux

heat distribution in the fusion zone. Data was obtained which makes it possible to apply the method of distributed sources. This improves the calculation of heat transfer processes in zones immediately adjacent to the point. There are 3 figures, 4 schematic drawings, 1 table, 2 diagrams and 3 Soviet references.

ASSOCIATION: Institut metallurgii imeni A. A. Baykova AN SSSR (Institute of Metallurgy imeni A.A. Baykov of the AS USSR)

AVAILABLE: Library of Congress

Card 222

Petrushin, I. E.

7
✓ Solder for magnesium alloys. B. T. Kravtsov, I. E. Petrushin, L. T. Balkova, N. G. Pivovarova, and A. G. ~~...~~
~~...~~ U.S.S.R. 102,676, Apr. 20, 1966. The solder is composed of Al 21-22, Cu 25-26, Zn 0.3-0.5, and Mn 0.1-0.3%, and the rest is Mg. Cf. C.A. 51, 3431e. M. Hosh...

1E2C

100

15.2142

21158

S/032, 61, 027, 014, 018 128
B/032 001

AUTHORS: Petrunin, A. M. and Petrunin, I. Ye.

TITLE: Test of friction cermets for adhesive power to the steel carcass

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 4, 1961, 461

TEXT: The authors suggest a method of testing cermets for shearing in a system devised by them for this purpose. It is possible thereby to control the quality of adhesion of such substances to the steel carcass. It is stated that an increase of the content of nonmetallic components causes this adhesion to be impaired considerably. The use of cermets for heavy duty brakes is thus reduced. The intermediate metal powder layer suggested by the authors [Abstracter's note: No reference] to serve as a base for cermets augmented the adhesive power (after pressing and sintering) to the steel carcass, and, thus, the serviceability under heavy stress. However, the quality of adhesion of various sets of cermets is in this case very difficult to be evaluated by comparison. To find a way out of this difficulty, the authors tested annular cermets for shear-

X

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21158

S, 032, 01, 027 004 016 008
B103, B201

Test of friction cermets for ...

ing is used, say, to measure the fracture strength. Figure is too unclear for reproduction, which is clamped between the jaws of a universal testing machine. The latter is kept under stress until the sample suffers breakdown, and the shearing resistance is determined by the formula

$\tau_{\text{shear}} = P/F \text{ kg/mm}^2$. Here, P denotes the maximum destructive load in kg, F is the area of the cross section of the annular sample at the site of shearing in mm^2 . The effect of friction may be neglected. To prepare the samples, 2-3 workpieces are selected from a set of cermets, and turned into annular samples with external diameters of $20 \pm 0.05 \text{ mm}$ and an inside diameter of $12 \pm 0.1 \text{ mm}$. To indicate the breaking direction, a 0.75-mm deep cut is applied externally to the sample at the boundary with the steel carcass. The authors' method not only allows the control of adhesion, but also a more accurate choice of pressure for sintering. There is 1 figure.

Card 2/2

L 3773-66 ENTIT DIAAF GS

S/0000/64/000/000/0791/0794

ACCESSION NR: AT5007950

AUTHOR: Davydov, M. S.; Dorfman, I. G.; Yekimov, V. V.; Zaimanzon, V. B.; Zeytshon, G. A.; Levin, V. M.; Malyshev, I. F.; Petelin, I. G.; Petrunin, V. I.; Popov, V. A.; Trushin, N. Kh.; Umanskiy, I. G.; Finkel'shteyn, I. Y.

TITLE: Deflecting system of 5-Gev antiproton channel

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964. 791-794

TOPIC TAGS: antiproton, high energy particle, particle beam, high energy accelerator

ABSTRACT: Specific requirements flowing from the applied principle of particle resolution have determined the choice of the type of deflecting system. During development of the device the requirements were also considered from the viewpoint of the high-frequency power supply system. The creation of a high-power 150-megahertz frequency generator that operates with pulses of several milliseconds duration is a technically complex task. Therefore, special attention was given during the development of the deflecting system to its economy and efficiency. Taking these considerations into account, computations were carried out of a number of

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L 3773-06

ACCESSION NR: AT5007950

Alternate deflecting systems: in the form of a waveguide or band line operating in the energy recuperation regime, or in the form of a system of many cavity or single-cavity volume resonators. As shown by the computations, it is most expedient to make the deflecting system in the form of a set of independently phased resonators of the quasitoroidal type, which operate in the fundamental mode of the electric oscillations, with the use of high-frequency electrical field for deflecting the particles. The report discusses the resonators employed in the deflecting system and their arrangement in the system. The chosen resonator form permits one to obtain a specific homogeneity of the deflecting field in the cross section of a beam by selection of suitable dimensions. The report discusses the characteristics of the developed system. The linear dimensions of the apertures in the resonators for channeling the beam are commensurable with the operating wavelength, which fact leads to the radiation of electromagnetic energy and to the appearance of a strong bond among the resonators. In order to eliminate this phenomenon and preserve complete transparency of the channel for the beam of deflected particles among the resonators, the waveguide segments are provided with limiting wavelength much lower than the operating one, and feedback is introduced in the magnetic field. As shown by investigations, the bond among the resonators is almost completely eliminated. Considerable attention was paid to the electric transparency of the resonators.

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L 3773-66

ACCESSION NR: AT5007950

tors. The field strength in the resonator gaps which corresponds to a given magnitude of the deflecting pulse was determined on the basis of the field pictures that were taken in an electrolytic tank. Corrections were made for the variation in the high-frequency field during the particles' flight time through a resonator and for the difference between the static and high-frequency pictures of the field in a gap. Measures were also taken to eliminate in the resonators the secondary electron resonance discharge. Orig. art. has: 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury imeni D. V. Yefremova GKAE SSSR (Scientific-Research Institute of Electrophysical Equipment, GKAE SSSR)

SUBMITTED: 26May64

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: NP

Card 3/3