22803

S/136/61/000/005/006/008

E073/E535

18.8200   1416

AUTHOR: Volkogon, G. M.

TITLE: Influence of the Speed of Extension on the Mechanical Properties of German Silver МН19 (MN19) and Monel Metal НМЖМц28-2.5-1.5 (NMZhMts28-2.5-1.5) at Elevated Temperatures

PERIODICAL: Tsvetnyye metally, 1961, No.5, pp.62-64

TEXT: Earlier, the author carried out investigations aimed at determining a relation between the mechanical properties of nickel and the speed of tensile deformation at elevated temperatures (Ref.1: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No.4) and also at room temperature (Ref.2: Zavodskaya laboratoriya, 1959, Vol.25, No.2). He found that in the first case an increase in the speed of deformation leads simultaneously to an increase of the strength and the reduction of area, whilst in the second case only the strength increases. This does not conform to the generally held view, according to which, with increasing speed of tension, the ductility of the metal should decrease. Therefore, it is of practical interest to investigate

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experimentally this factor for metals and alloys within a wide
range of speeds of tensile deformations and temperatures. The
compositions of the alloys investigated were as follows:
MN19: 19.2% Ni, rest Cu and the following admixtures:
     0.002% Pb, 0.24% Fe, 0.46% Mn, 0.0048% P, 0.003% Si,
     0.0088% S, 0.01% C;
NMZhMts-28-2.5-1.5: 28.10% Cu, 2.62% Fe, 1.25% Mn, rest Ni and
     the following admixtures: 0.002% Pb, 0.0031% P, 0.049% Si,
     0.022% S, 0.03% C.
The speed of deformation depends not only on the speed of move-
ment of the clamping device but also on the length of the specimen:

$$w = v_{test}/\ell, \quad sec^{-1}$$

where w - deformation speed, v_{test} - speed of movement of the
clamping device, ℓ - gauge length of the specimen. To conserve
correspondence between the speed of deformation and the speed of
movement of the clamping device, the specimens had a gauge length
of 30 mm. The cylindrical specimens were produced from ingots

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after preliminary forging with a rate of deformation of about 90%.
The full contraction was taken as a criterion of the ductility.
The static tests were carried out at 14 speeds between 2 and
460 mm/min. The specimens were heated, together with the clamping
device, in a tubular electric furnace. The dynamic tests were
made by using a special attachment in an impact test machine. In
both tests the specimens were soaked at the heating temperature
for 15 min and then fractured in the furnace. For obtaining
more accurate data at elevated temperatures, the hot section of the
thermocouple and the gauge length of the specimen were screened.
First, static tensile tests (2 mm/min) and impact tensile tests at
20, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000 and 1100°C
were carried out, testing four specimens at each temperature. The
results, Fig.1, show that the speed of deformation has practically
no influence up to about 200°C but has a considerable influence
at higher temperatures. The plasticity of the investigated
alloys was much higher under dynamic conditions than under static
conditions. Fig.1 gives the strength, kg/mm^2 and the reduction
of a r e a, % as a function of the temperature (the suffix "cm"

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refers to results of static tests, the suffix "∂" refers to the
results of dynamic tests); here as well as in Fig.2 the continuous
line curves are for the Monel metal, the dashed line curves are
for German silver. Tests were also carried out on the influence
of the speed of tensile deformation (2 to 460 mm/min) at 750°C
on the strength, kg/mm^2 and the reduction of a r e a. %, Fig.2.
It was established that generally the strength and the plasticity
increase simultaneously with increasing loading speed; the
influence is more pronounced for the strength of the Monel metal.
Table 2 gives the results obtained on the influence of the soaking
time at the test temperature (900°C) of the specimens, prior to
the tensile tests, on their mechanical properties (speed of tensile
deformation 16 mm/min). Table 2: column 1 - soaking time in min,
columns 2 and 3 - σ_b, kg/mm^2 and ψ,% respectively for German
silver, columns 3 and 4 - same for Monel metal. The results show
that the duration of soaking prior to the test has a certain
influence; with increasing soaking time the strength decreases,
which is attributed to oxidation of the surface. The reduction
of a r e a remains unchanged. The established increase in
plasticity of the investigated alloys with increasing speed of
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tensile deformation is explained by the effect of two processes
counteracting each other: plastic deformation leads to an increase
of the internal energy of the system as a result of blocking of
slip planes, distortion of atomic lattices, which result in a
hardening of the metal; on the other hand, softening processes
take place simultaneously which lead to an increase in plasticity.
Whether one or the other of these is predominant depends on the
temperature. The maximum effect of the speed of tensile defor -
tion is observed at temperatures corresponding to the zone of
brittleness of the particular alloys, which in the given case is
about 750°C. The medium in which the investigations are carried
out, the state, structure and the degree of alloying of the alloys
also have an influence. There are 2 figures, 2 tables and 3
Soviet references.

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VOLKOGON, G.M.

Impact tension tests of metals at various temperatures.   Zav.lab.
29 no.4:478-479 '63.   (MIRA 16:5)

1. Orskiy zavod po obrabotke tsvetnykh metallov.
                                 (Metals--Testing)

VOLKOGON, G.M.; ROGEL'BERG, I.L.

Effect of certain elements on the plasticity of nickel at high
temperatures. TSvet. met. 37 no.6:66-71 Je '64. (MIRA 17:9)

S/0136/64/000/006/0066/0071

ACCESSION NR: AP4040499

AUTHOR: Volkogon, G. M.; Rogel'berg, I. L.

TITLE: Effect of certain elements on nickel ductility at high tempera-
tures

SOURCE: Tsvetny*ye metally*, no. 6, 1964, 66-71

TOPIC TAGS: nickel, nickel hot shortness, alloyed nickel, nickel
ductility, alloyed nickel ductility, nickel alloy, alloy hot shortness,
alloy hot ductility, alloy ductility, nickel magnesium alloy, nickel
calcium alloy, nickel strontium alloy, nickel titanium alloy, nickel
zirconium alloy, nickel hafnium alloy, nickel boron alloy, nickel
lanthanum alloy, nickel cerium alloy

ABSTRACT: The effect of alloying elements on nickel ductility at
temperatures of 20—550C, 550—950C, and 1000—1100C has been inves-
tigated.   Unalloyed nickel is brittle at 400—950C, and especially at
800C. Alloying with lithium increases ductility at 400—800C; reduc-
tion of area reaches 30% at 0.1% Li. At 1000—1100C the ductility of
nickel alloyed with Li is very high, and the reduction of area is
90—100%. Magnesium, calcium, and strontium at low contents increase
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ACCESSION NR: AP4040499

the ductility at 550—950C, but at contents of 0.2—0.3% Mg or 0.1% Ca or
Sr have an adverse effect. Beryllium has no effect on ductility at
500—900C, but has a beneficial effect at high temperature. Boron, in
the amount of 0.02—0.05%, increases the ductility, especially at
550—950C. However, beryllium at contents over 0.05% makes nickel brittle
at all temperatures. Aluminum worsens hot shortness of nickel, espe-
cially at higher contents. Lanthanum-group metals (La, Ce, Pr) improve
ductility at all temperatures, provided their content is below
0.053—0.072%. Titanium, zirconium, and hafnium have a beneficial effect
at 500—900C. Titanium has a weaker effect than zirconium and hafnium,
and an excess of it does not affect the ductility. Vanadium, tantalum,
phosphorus, chromium, molybdenum, and tungsten decrease the ductility,
especially at low temperatures. Manganese and rhenium have no bene-
ficial effect, even if added in considerable quantity. Rhenium, at low
contents, widens the range of hot shortness. It follows, therefore,
that Li, Mg, Ca, Sr, B, Ce, Ti, Zr, and Hf increase the ductility and
eventually eliminate hot shortness in nickel completely. The above
elements apparently have a high affinity to sulfur (which is the main
cause of nickel brittleness) and their sulfides have a high melting
point. Lithium is the strongest modifier; it eliminates columnar

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ACCESSION NR: AP4040499

structure and substantially reduces grain size. Ti, Ce, Ca, Zr, and Mg have much weaker grain-refining effect. Orig. art. has: 1 figure and 1 table.

ASSCIATION: none

SUBMITTED: 00   DATE ACQ: 06Jul64   ENCL: 00

SUB CODE: MM   NO REF SOV: 009   OTHER: 004

ATD PRESS: 3041

Card 3/3

VOLKOGON, G.M.; ROGEL'BERG, I.L.

Effect of cerium additions on the plasticity of nickel and its alloys at high temperatures. TSvet. met. 38 no.8:72-76 Ag '65.
(MIRA 18:9)

S/032/63/029/004/010/016
A004/A127

AUTHOR: Volkogon, G.M.

TITLE: Metal tensile tests under impact effect of forces and at various
              temperatures

PERIODICAL: Zavodskaya laboratoriya, no. 4, 1963, 478 - 479

TEXT: The author carried out tensile tests of HПA-1 (NPA-1) nickel,
MH-9 (MN-9) cupronickel and HMЖМц -28-2,5-1,5 (NMZhMts-28-2.5-1.5) monel
metal under dynamic and static effects of forces and at various temperatures.
A Charpy impact machine was used, while the temperature was measured with a
platinum-platinumiridium thermocouple connected to a ППТВ-1 (PPTV-1)
potentiometer. The static tests were performed on a УМ-5 (UM-5) machine.
The test temperature ranged from room temperature to 1,200°C. It was reveal-
ed that, under impact tension, the strength and ductility values increased,
particularly in the range of medium temperatures. There are 2 figures and
1 table.

ASSOCIATION: Orskiy zavod po obrabotke tsvetnykh metallov (Orsk Plant of
              Nonferrous Metal Processing)
Card 1/1

L 00990-66   EWT(m)/EWG(m)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c)   JJP(c)   RDW/JD/HW/MJW(CL)

ACCESSION NR: AP5019972   UR/0136/65/000/008/0072/0076   40
                                     669.24:539.5   35
                                                                     13

AUTHOR: Volkogon, G. M.; Rogel'bert, I. L.

TITLE: Effect of the addition of cerium on the plasticity of nickel and its
alloys at elevated temperatures

SOURCE: Tsvetnyye metally, no. 8, 1965, 72-76

TOPIC TAGS: cerium containing nickel, cerium containing nickel alloy, nickel
plasticity, phase composition, embrittling impurity, monel, alumel, ferrocerium,
mischmetal, hot cracking zone cerium sulfide, isobaric potential

ABSTRACT: The present work is a continuation of a previous investigation(Volkogon,
G. M., Rogel'berg, I. L. Tsvetnyye metally, 1964, no. 6) in which it was shown
that the addition of small amounts of Ce enhances, up to a point, the plasticity
of Ni. Now the authors present the results of a further investigation of the
effect of cerium on the plasticity of Ni and its alloys, chiefly with the object
of determining the optimal amount of Ce to be added and its effect on the plasti-
city of Ni solid solutions, as well as the mechanical properties and phase compo-

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L 00990-66

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ACCESSION NR: AP5019972

sition. Cerium in the amounts of from 0.01 to 0.1% was added in the form of pure Ce, ferrocerium, mischmetal, and FTsM5 alloy (65.0% Ce, 4.1% Fe, 6.3% Mg). The methods of preparing the alloys and specimens and the testing techniques are described in another earlier investigation (Volkogon, G. M., Rogel'berg, I. L. Tsvetnaya metallurgiya, 1963, no. 3). Cerium is instrumental in completely eliminating the hot-cracking zone in Ni in the medium-temperature region and sharply increasing the absolute plasticity index over the investigated temperature range (up to 1000°C). The optimal Ce content assuring a high plasticity of Ni metal proved to be 0.02-0.025%; amounts below 0.02% are insufficient to paralyze the harmful effect of the embrittling impurities, while above 0.025% they adversely affect plasticity. The Ni alloys investigated for plasticity were: binary Ni solid solutions (Ni + Al, Ni + Si, Ni + Mn), as well as industrial-type multi-component Ni solid solutions, including monel and alumel. The optimal Ce content of Ni alloys varies depending on the alloy composition. Thus, for example, the addition of 0.05% Ce increases the plasticity of the alloy NK (Ni + 18% Co + 2% Al + 2% Mn + 1% Si). Assuming that the reason for the decrease in plasticity (presence of hot-cracking zones) in Ni and its alloys is the segregation of embrittling phases along grain boundaries, e. g. the segregation of

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ACCESSION NR: AP5019972

nickel sulfide, the increase in plasticity with the addition of certain sulfur-affine alloy elements such as Ce is attributable to the binding of the impurities (sulfur) into high-melting compounds and thus the elimination of embrittling phases from the grain boundaries. This is confirmed by the results of phase analysis, which revealed the presence of S in bound form in Ce-alloyed Ni, i. e. the presence in Ni of cerium sulfides that are soluble in HCl but insoluble in iodine solution. Since the formation of the sulfide Ce_2S_3 is accompanied by the maximum change in the isobaric potential, this implies that this type of sulfide is the most probable form of the combination of cerium with sulfur in nickel. Orig. art. has: 3 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: MM, SS

NO REF SOV: 005   OTHER: 002

Card 3/3

L 40917-66   EWT(m)/EWP(t)/ETI   IJP(c)   JD/WH/HW/JG
                                   (N)   SOURCE CODE: UR/0136/66/000/006/0085/0088

ACC NR: AP6020743

AUTHOR: Volkogon, G. M.

ORG: none

TITLE: Treating molten nickel with admixtures of magnesium, cerium, and zirconium

SOURCE: Tsvetnyye metally, no. 6, 1966, 85-88

TOPIC TAGS: nickel, metal physical property, admixture, magnesium, cerium, zirconium

ABSTRACT: The experimental series was carried out to determine effects of residual con-
tents of 0.1% admixtures of Mg, Ce, or Zr on the ductility of nickel. The source material
was killed preliminarily by 0.15% C, or by 0.2% C and 0.3% Si. The melt was maintained at
1550C constant for 1 to 9 min. Results confirmed the desirable effects of Zr and Ce admixtures.
Optimal results were obtained by adding 0.1% Ce and Zr to the melt and maintaining the latter
at 1550C for 6 min thereafter. The temperature dependence of reduction of nickel is given in
Fig. 1. Orig. art. has: 3 figures and 1 table.

UDC: 669.24:620.1

Card 1/2

L 40917-66

ACC NR: AP6020743   0

(a)

(b)
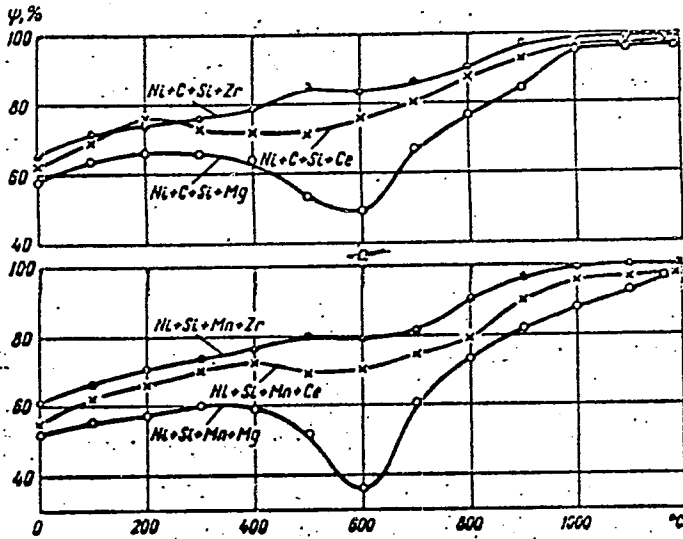
Figure 1. The temperature de-
pendence of total reduction for
sheet (a) and anode (b) nickel.

SUB CODE: 11,13/ SUBM DATE: 00/ ORIG REF: 006/ OTH REF: 002

Card   2/2   11b

$VOLKOGON, G.T.$

PRESNYAKOV, A.A., kand.tekhn.nauk; ROZENBERG, M.D., inzhener; PRIMATOVA, L.V.;
VOLKOGON, G.T.

Technological problems in the production of strips of MZhN-1 alloy.
TSvet.met. 27 no.6:60-65 N-D '54.   (MIRA 10:10)
           (Copper-Iron-nickel alloys)

VOLKOGONOV, D., mayor

The development of the personality of servicemen and the process of their training. Komm. Vooruzh. Sil 46 no.2: 56-62 Ja '66.   (MIRA 19:1)

VOLKOLAKOV, F.K.; DAVYDOV, V.I.; KIBANOV, G.A.; YAZMIR, M.M.

New occurrences of Cambrian fauna and flora in the Bambuyka basin (western Transbaikalia). Geol. i geofiz. no.8:133-135 '64.   (MIRA 18:2)

1. Buryatskoye geologicheskoye upravleniye, Ulan-Ude.

VOLKOLAKOV, F.K.

Stratigraphy of lower Paleozoic sediments in the southeastern
part of the Eastern Sayans. Trudy BKNII no.2:19-28 '60.
(MIRA 14:10)

(Sayan Mountain region—Geology, Stratigraphic)

VOLKOLAKOV, Ya.V.

     Longitudinal section of the sternum in the formation of a retro-
sternal esophagus from an intestine. Khirurgiia 39 no.11:47-50
N '63.   (MIRA 17:11)

     1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii
(zav. - prof. A.P. Biyezin' [Biezins, A.]) Rizhskogo meditsinskogo
instituta.

L 28391-66   EPF(n)-2/EWT(1)/ETC(f)/EWG(m)/T   IJP(c)   AT

ACC NR: AP6013112   SOURCE CODE: UR/0057/66/036/004/0595/0602

AUTHOR: Akshanov,B.S.; Volkolupov,Yu.Ya.; Sinel'nikov,K,D,

ORG: none

TITLE: Investigation of injection and capture of charged particles in a magnetic mirror trap

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no.4, 1966, 595-602

TOPIC TAGS: hydrogen plasma, plasma confinement, plasma oscillation, electron beam, magnetic mirror,

ABSTRACT: The earlier investigations of two of the authors and collaborators (Sb. "Fizika plazmy i problem upravlyayemogo termoyadernogo sinteza", IV, 403-410; IV, 388-402, Kiyev, 1965) on production of helical electron beams and their injection into magnetic mirror traps have been continued. The magnetic mirrors of the trap were 18 cm apart, and the magnetic field strength could be varied from 0 to 1 kOe. Near one of the magnetic mirrors and outside the region of the trap there was produced with the aid of a third (opposing) winding a cusped magnetic field, in which the low pitch helical electron beams were produced by off-axis injection as discussed in the reference cited above. In the present work a 2 cm diameter ring-shaped cathode was employed as electron source in order to increase the beam current; the electron tra- jectories, therefore, were not a set of coaxial helices, but a family of helices whose

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ACC NR: AP6013112 $\quad$ $\mathcal{O}$

axes were generators of a 2 cm diameter cylinder, the axis of which coincided with the symmetry axis of the system. The pitch of the helical trajectories was such that the electrons traveled more than 1 km in traversing the 18 cm between the magnetic mirrors. Accelerating potentials up to 5 kV and beam currents up to 1 A were employed. The plasmas were probed with an axial electron beam which was modulated at high frequency so that its signal could be distinguished from the currents produced by escaping plasma particles. The apparatus contained hydrogen at pressures up to 10^{-2} N/m^2. When the gas pressure was below 10^{-4} N/m^2 the injected electrons accumulated until the resulting space charge was sufficient to cut off a 1-1.5 keV probe beam. When the gas pressure exceeded 10^{-3} N/m^2 the gas became highly ionized and there was produced a well compensated plasma. The lifetime of the plasma after cut off of the injected beam increased rapidly with increasing beam current and under some conditions was as long as 0.1sec. Plasmas with charged particle densities as high as 10^{12} cm^{-3} were obtained. Intense high frequency oscillations developed as a result of the interaction of the plasma and the electron beam. When the power in the electron beam was increased to a critical value a cascade process was triggered, resulting in rapid increase of the intensity of the high frequency oscillations, "burning out" of the neutral gas in the trap, and increase of the plasma density until it reached the initial density of the neutral gas in the apparatus. Orig. art. has: 9 figures.

SUB CODE: 20 $\qquad$ SUBM DATE: 18Jul64 $\qquad$ ORIG. REF: 004

Card $\quad$ 2/2 $\quad$ CC

ACCESSION NR: AT4036076   S/2781/63/000/003/0337/0343

AUTHORS: Silenok-Bel'skiy, G. A.; Volkolupov, Yu. Ya.

TITLE: Decay of a plasma in a magnetic field

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo
termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i prob-
lemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and
problems of controlled thermonuclear synthesis); doklady* konferen-.
tsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 337-343

TOPIC TAGS: Plasma decay, plasma magnetic field interaction, plasma
diffusion, recombination, particle collision

ABSTRACT: The effect of the magnetic field on the diffusion of plas-
ma in a direction transverse to the field was investigated in two
series of experiments, one in fields up to 0.15 Tesla (1961) and the
other up to 0.3 Tesla (in 1962). The theory underlying the experi-

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ments and the experimental apparatus are described. The plasma was
excited in a quartz tube 20 mm in diameter situated in a constant
magnetic field, the homogeneous part of the magnetic field was 40 cm
long in the first series of experiments and 150 in the second. The
inhomogeneity did not exceed 1%. The decay of the plasma was deter-
mined from the shift of the natural frequency of the 10-cm resonator
operating in the E_{010} mode. The quantity measured directly in the
experiment was the change in the natural frequency of the resonator
as a function of the time. The experimental plots of the diffusion
against the magnetic induction, obtained for small degrees of plasma
anisotropy ($B/p \leq 7.5 \times 10^{-4}$ Tesla-m^2/n, where p is the pressure) in-
dicate that diffusion transverse to the magnetic field is due to
pair collisions. These results agree qualitatively with results ob-
tained in the study of transverse diffusion in argon (A. Phelps, O.
Fundingsland, S. Brown, Phys. Rev. v. 84, 559, 1951; V. S. Golubev,
"Radiotekhnika i elektronika" v. 7, 153, 1962). In the case of strong

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ACCESSION NR: AT4036076

anisotropy $(B/p > 7.5 \times 10^{-3})$ the predominant mechanism is recom-
bination. The recombination coefficient for hydrogen was found to be
2×10^{-6} cm^3/sec. The relatively large recombination coefficient
and the relatively broad region of transition from diffusion to re-
combination loss may imply the presence of additional losses in the
case of strong anisotropy. Orig. art. has: 7 figures and 6 formulas.

ASSOCIATION: None

SUBMITTED: 00   DATE ACQ: 21May64   ENCL: 03

SUB CODE: ME   NR REF SOV: 005   OTHER: 006

Card   3/6
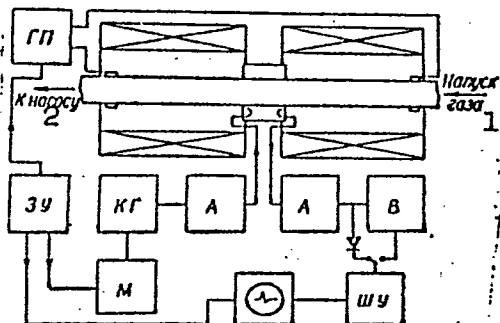
Experimental set-up: ГП-ignition generator
($\sim$50 Mc, $\sim$ 10 kW), ЗУ - triggering unit,
КГ - klystron generator, A - attenuator,
B - wave meter, M - modulator, ШУ - broad
band amplifier, 1) Gas inlet, 2) to pump

Рис. 1.

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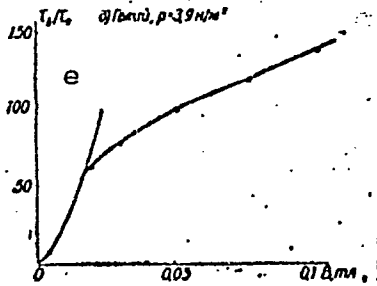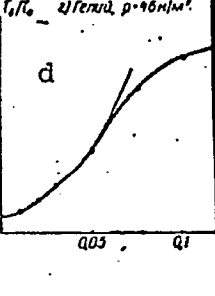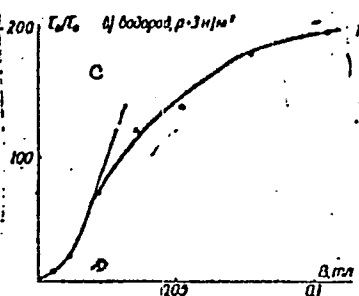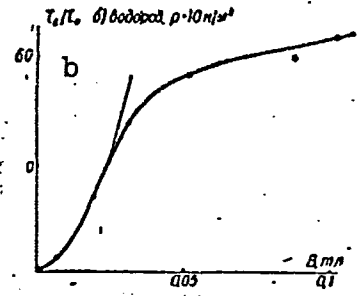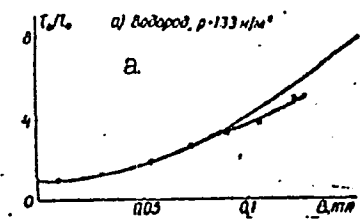
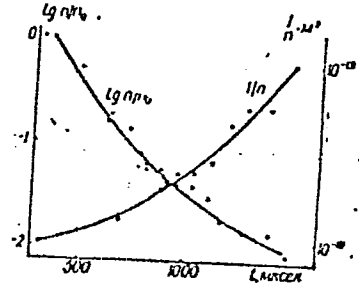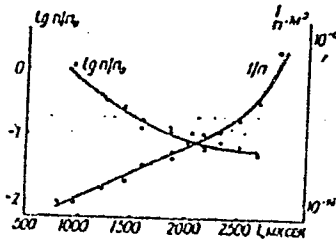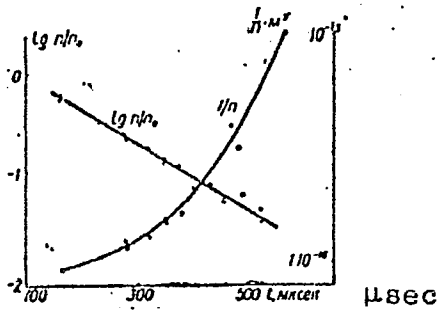Ratio of characteristic time vs. magnetic induction (in Teslas). a - hydrogen, p = 133 n/m^2, b - hydrogen, 10 n/m^2, c - hydrogen, 3 n/m^2, d - helium, 46 n/m^2, e - helium, 3.9 n/m^2.

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ACCESSION NR: AT4036076

Time variation (left to right): $B/p \lesssim 7.5 \times 10^{-3}$ Tesla-m²/n, $B/p \gtrsim 7.5 \times 10^{-3}$, and $7.5 \times 10^{-4} \lesssim B/p \lesssim 7.5 \times 10^{-3}$

Card 6/6

VOLKOMICH, A., inzhener.

Mechanical manufacture of corrugated pipe. Stroi.mat., izdel.i
konstr. 2 no.5:14-16 My '56.   (MLRA 9:8)
                              (Heating pipes)

VOLKOMICH, A.A.

      Seminar on problems of pressure packing of foundry molds. Lit.
proizv. no.8:40-41 Ag '62.   (MIRA 15:11)
                              (Die casting)

VOLKOMICH, A.A., inzh.

Analyzing the process of unsteady motion of a light particle
in a fluid flow. Izv. vys. ucheb. zav.: mashinostr. no.11:
192-205 '63.   (MIRA 17:10)

1. Moskovskiy avtomekhanicheskiy institut.

18(5), 25(5)   SOV/128-59-4-17/27
AUTHORS: Volkomich, A.I., and Egiz, B.I., Engineers

TITLE: Increasing Productivity of Cupolas

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 4, p 37 (USSR)

ABSTRACT: In the Rostov Radiator Plant, cupolas with a capacity
                of 7 tons were provided with water cooling, which
                lifted their output to 11 tons per hour. A further
                increase of production was effected by a reconstruc-
                tion of the lower part of the cupola shaft. The dia-
                meter of the melting belt was enlarged to 1,590 mm.
                Since the upper part of the shaft could not also be
                widened, it was connected with the lower part by a
                conical transition. During operation with water cool-
                ing cracks formed at the welds and especially at the
                joints of the tuyere connections. Therefore, they re-
                ceived a brick cover on the bottom. For cupolas with
                high output, stones are used which are welded to four
                girders. The floor doors were welded together with
                cross bracings. When the production of the cupola
Card 1/2   was raised, the distribution of the melted iron became

Increasing Productivity of Cupolas   SOV/128-59-4-17/27

difficult. Since the metal is let out too frequently,
it is not possible to close the tap hole with clay
plugs. Steel poles were therefore used for this pur-
pose, or the flow was "chopped off". This was done
with a tipping trough which was put under the outlet.
There are 5 diagrams.

Card 2/2

VOLKOVICH, A.I., inzhener.

Mechanizing ribbed pipe casting at the Dubenski Foundry. Lit.proizv.
no.7:7-10 Jl '57.   (MIRA 10:8)
(Dubenski--Foundries)
(Pipe, Cast iron)

25(2)   PHASE I BOOK EXPLOITATION   SOV/2300

Volkomich, Aleksandr Iosifovich, Abram Petrovich Lakshin and David L'vovich
Khazin

Liteynyye mashiny (Foundry Machinery) Moscow, Mashgiz, 1959.   464 p.
    10,000 copies printed.

Reviewer: M.V. Chunayev, Candidate of Technical Sciences; Ed.: B.V.
    Rabinovich, Candidate of Technical Sciences; Tech. Ed.: A.Ya. Tikhanov;
    Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya.
    Golovin, Engineer.

PURPOSE: This handbook is intended for foundry engineers, mechanics, and workers.
    It may also be useful to engineers and technicians of design organizations.

COVERAGE: The book deals with equipment and machinery used in foundries. Design
    layouts and principles of the operation, lubrication, care, and maintenance of
    machinery are presented. Production of foundry machinery and equipment is de-
    scribed. Information is given on the automation of foundry techniques. No
    personalities are mentioned. There are no references.

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    9. Reducing valve   460
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AVAILABLE: Library of Congress

                                                     GO/fal
                                                     10-20-59
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VOLKOMICH, Aleksandr Iosifovich; LAKSHIN, Abram Petrovich; KHAZIN,
David L'vovich; CHUNAYEV, M.V., kand.tekhn.nauk, retsenzent;
RABINOVICH, B.V., kand.tekhn.nauk, red.; TIKHANOV, A.Ya., .
tekhn.red.

[Foundry machinery] Liteinye mashiny. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1959. 464 p.   (MIRA 12:5)
          (Foundry machinery and supplies)

VOLKOMICH, Aleksandr Iosifovich; CHERNYAK, B.Z., red.; GARMASH,
L.M., referent, otv. za vypusk; SUKHAREVA, R.A., tekhn.
red.

[Automatic control and mechanization of the shakeout of
molds] Avtomatizatsiia i mekhanizatsiia vybivki form.
Moskva, Mosk. dom nauchno-tekhn. propagandy im. F.E.
Dzerzhinskogo, 1958. 33 p. (Peredovoi opyt proizvodstva;
Seriia: "Tekhnologiia mashinostroeniia." Liteinoe proiz-
vodstvo, no.20)   (MIRA 16:10)
            (Molding (Founding))

VOLKOMIRSKIY, I.I.

Diesel parameters for drilling rigs. Mash. i neft. obor. no.5:
19-24 '63.   (MIRA 17:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut neftyanogo mashinostroyeniya.

L 05191-67   EWT(m)   DJ

ACC NR: AP6011227   (A)   SOURCE CODE: UR/0413/66/000/006/0065/0065

AUTHORS: Golovko, V. N.; Shkol'nikov, B. M.; Zhitkov, N. B.; Chepurov, B. M.;
Volkomirskiy, I. I.

ORG: none

TITLE: Frictional disk brake. Class 35, No. 179893 /announced by State Scientific
Research and Design-Construction Institute for Petroleum Machinery Construction
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut
neftyanogo mashinostroyeniya)_7

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 65

TOPIC TAGS: friction, well drilling machinery, drilling machine

ABSTRACT: This Author Certificate presents a frictional disk brake for, say,
drill hoists. The brake consists of a casing, a shaft connected to the shaft of
the drill hoist, and a friction disk. To insure the independent action of the
braking moment from the rotary velocity of the hoist shaft, the immovable friction
disks contain internal openings (see Fig. 1). These openings are connected to a
closed circuit through which cooling liquid is circulated by, say, a centrifugal
pump. To facilitate the exchange of friction sheaves, the latter are loosely
held by the disks.

Card 1/2   UDC: 622.24.054:621.864-783.52

L 05191-67

ACC NR: AP6011227

Fig. 1. 1 - case; 2 - shaft; 3 - friction
         disk.
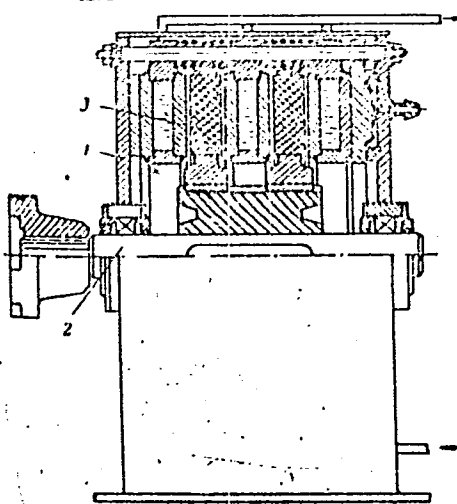
Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 12Aug63

Card 2/2   vmb

VOLKONSKAYA, Anastasiya Sergeyevna, montazhnitsa; KOMRILOVA, M.I., redaktor;
KIRSANOVA, N.A., tekhnicheskiy redaktor

   [Assembling radio tubes] Na montazhe radiolamp [Moskva] Izd-vo
   VTsSPS Profizdat, 1956. 24 p.   (MLRA 10:3)

   1. Moskovskiy ordena Lenina elektrolampovyy zavod (for Volkonskaya)
        (Electron tubes)

VOLKONSKAYA, M. deputat Verkhovnogo Soveta SSSR, tkachikha.

After the session. Rabotnitsa 35 no.6:4 Je '57.   (MIRA 10:8)

1. Kalininskaya fabrika imeni K.Ye. Voroshilova.
                (Industrial management)

VOLKONSKAYA, Mariya Vladimirovna, tkachikha; KORNILOVA,M.I., redaktor; RAKOV,S.I., tekhnicheskiy redaktor

[Skill in weaving] Masterstvo tkachikhi. [Moskva] Izd-vo VTsSPS Profizdat, 1955. 38 p.   (MLRA 9:1)

1. Deputat Verkhovnogo Soveta SSSR (for Volkonskay) 2. Kalininskaya fabrika imeni Voroshilova (for Volkonskay)
                        (Weaving)

VOLKONSKAYA, R.A., klinicheskiy ordinar; GURVICH, B.I., professor, zaveduyushchiy; KHIDEKEL', L.M., glavnyy vrach.

Treatment of dysentery in infants with colloidal silver salt of sulfathiazole. Vop. pediat. 21 no.4:14-17 Jl-Ag '53.   (MLRA 6:10)

1. Kafedra fakul'tetskoy pediatrii Gor'kovskogo gosudarstvennogo meditsinskogo instituta im. S.M.Kirova (for Gurvich). 2. Gor'kovskaya gorodskaya detskaya klinicheskaya bol'nitsa (for Khidekel').
                              (Sulfathiazole) (Dysentery)

VOLKONSKAYA, T.G.; PAVLOV, B.M.; POPOV, N.N.

Calculating the compression process in a piston type unit.
Sbor. rab. VTS MGU 4:184-210 '65.   (MIRA 18:9)

VOLKONSKAYA, T.G.; ZHEMCHUZHNIKOVA, D.M.; ZHOGOLEV, Ye.A.; KOTIK, I.P.

Programs for calculating Bessel's functions. Vych. met. i prog.
1:316-323 '62.   (MIRA 15:8)
                            (Bessel's functions)

31539
S/627/60/002/000/022/027
D299/D304

3.2410 (2205, 2805, 1559)

AUTHORS: Volkonskaya, T. G., Ivanenko, I. P., and Timofeyev, G.A.

TITLE: Development of electron-photon showers of high energy
             in condensed media

SOURCE: International Conference on Cosmic Radiation. Moscow,
             1959. Trudy. v. 2. Shirokiye atmosfernyye livni i kas-
             kadnyye protsessy, 269-291

TEXT: In the computations, carried out by the Monte Carlo method,
only pair creation, bremsstrahlung and ionization of the atoms of
the medium were taken into account. The results are given of cal-
culations concerning the development of approximately 300 showers
in lead plates, generated by primary electrons of energy 10^{12} ev.,
and of approx. 400 showers generated in photographic plates by pri-
mary photons of similar energy. Complete data are given on elec-
trons and photons of energies $E \geqslant 4 \cdot 10^{7}$ ev. (14 energy intervals) at
depths up to 2 t-units. From the integral energy spectra of elec-

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Development of electron-photon ...

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S/627/60/002/000/022/027
D299/D304

trons and photons in lead at various depth, it is evident that the
spectra with multiple scattering vary: The number of particles of
higher energies increases whereas that of lower energies decreases.
It is noted that in the corresponding differential spectra, the dif-
ference between the ordinary and the spectra with multiple scatter-
ing is greater than in the integral spectra. A comparison of inte-
gral spectra of electrons and photons in photographic plates with
corresponding spectra of ordinary cross-section, showed that the
difference between these spectra is greater than in the case of
lead. It is noted that the experimental error is rather high. The
number distribution of showers is plotted in figures for various
depths, together with the Poisson-, Furry- and normal distribution.
These plots show that at great and medium depths, the distribution
is asymmetrical and fluctuations of the order of $\pm$ 0.7 $\bar{N}$ ($>E$) are
met in approximately 40% of the cases. Hence it is rather difficult
to observe the effects under study for showers with $E = 10^{12}$ ev.
The results of computations of the number distribution functions
are listed in 23 tables; the standard deviations for several of
these functions are listed in 2 tables. There are 10 figures, 25

Card 2/3

31539
S/627/60/002/000/022/027
D299/D304

Development of electron-photon ...

tables and 10 references: 6 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: B. Rossi, S. J. Klapman. Phys. Rev., 61, 414, 1942; J. A. Richardsm L. W. Nordheim. Phys. Rev., 74, 1106, 1948; J. C. Butcher, H. Messel. Phys. Rev., 112, 2096, 1958; W. H. Furry, Phys. Rev., 52, 569, 1937.

Card 3/3

L 00359-66   EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(h)/EWA(c)   WW

ACCESSION NR: AT5013289   UR/3043/65/000/004/0184/0210

AUTHOR: Volkonskaya, T. G.; Pavlov, B. M.; Popov, N. N.

TITLE: The calculation of compression processes within piston devices

SOURCE: Moscow. Universitet. Vychislitel'nyy tsentr. Sbornik rabot, no. 4, 1965.
Chislennyye metody v gazovoy dinamike (Numerical methods in gas dynamics), 184-210

TOPIC TAGS: Lagrange problem, ideal gas, adiabatic compression, nonsteady flow,
compression shock wave, unsteady shock wave

ABSTRACT: The solution of the Lagrange problem within a channel of variable cross
section is solved numerically taking counterpressure into account. The motion is as-
sumed uni-dimensional and the gas ideal. The calculations are carried out according to
the method of characteristics and using standard subprograms developed at the Computer
Center of the MGU for the calculation of a large class of unidimensional nonsteady gases
flow through tubes. Computations were carried out for the cases of shock and shockless
adiabatic compressions of a gas within the shaft of the piston device for different values
of the piston mass and adiabat index. Results seem sufficient for the understanding of
gas motion patterns needed in practical applications. The shock compression calculation

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L 00359-66
ACCESSION NR: AT5013289

covers the incident unsteady shock wave as well as the one reflected from the walls and from the piston (double reflection). All calculations were carried out on the "Strela" computer of the Computer Center. Results were tested for accuracy by carrying out double calculations with differing lattice steps and a different number of successive approximations at the lattice points. An appendix contains all the pertinent computational formulas. Orig. art. has: 45 formulas, 8 figures, and 3 tables.

ASSOCIATION: Vychislitel'nyy tsentr, Moskovskiy universitet (Computer Center, Moscow University)

SUBMITTED: 00   ENCL: 00   SUB CODE: ME,   DP

NO REF SOV: 003   OTHER: 000

Card 2/2

3.1540

78006
SOV/33-37-1-6/31

AUTHORS: Masevich, A. G., Volkonskaya, T. G.

TITLE: Structure of the Sun

PERIODICAL: Astronomicheskiy zhurnal, 1960, Vol 37, Nr 1, pp 42-50
              (USSR)

ABSTRACT: Using an electronic computer, the authors construct
              a new model of the sun. It consists of three parts:
              (1) an outer envelope, with no energy source in it
              and with molecular weight μ_1 corresponding to initial
              chemical composition of the model; (2) an intermediate
              layer, where the proton-proton reaction operates but
              the carbon cycle is a negligible source of energy;
              here, the ratio of molecular weights μ_2 / μ_1 is
              determined by the speed of the proton-proton reaction
              and changes with time; (3) a central core, where both
              the proton-proton and the carbon cycle operate, and
              μ_3 / μ_2 and μ_3 / μ_1 are determined by the

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Structure of the Sun

relative intensity of the two energy sources. No
mixing occurs between the different parts. Numerical
integration of the model is performed from the surface
to the interior and every step is checked for possible
convective instability. The absorption law is written
as:

$$k = \frac{1}{t} k_0 \frac{\rho}{T^{3.5}} + 0.30 (1 + X), \qquad (1)$$

$$k_0 = 3.9 \cdot 10^{25} (1 + X)(1 - X - Y) + 4.1 \cdot 10^{22} (1 + X)(X + Y), \qquad (2)$$

where   is density; t is correction factor taken
from Morse's tables; X and Y are relative amounts of
hydrogen and helium. A homogeneous model could be
obtained only with M = $M_\odot$, R = $R_\odot$, L = 0.85 L
($M_\odot$, $R_\odot$ and $L_\odot$ are the mass, radius, and
luminosity of the sun), and X = 0.995, Y = 0.003,
and Z = 0.002 (Z is the relative amount of heavier
elements). This model has a small convective core:

Card 2/4 M_{core} = 0.068 $M_\odot$, R_{core} = 0.107 $R_\odot$. For all

Structure of the Sun

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SOV/33-37-1-6/31

other parts radiative equilibrium remains stable. The
central temperature and density are: T_c = 12.07 ×
× 10^6 °K and ρ = 89 g/cm^3. The upper boundary of ltle
the intermediate zone is at r = 0.63 R $_\odot$, and the

energy source of the model is the proton-proton reaction;
even inside the core the contribution of the carbon
cycle is moderate. The authors also carried out
calculations for the chemical composition: X = 0.74,
Y = 0.25, and Z = 0.0075, assumed by P. Naur, and
they obtained results similar to his. A table gives a
summary of 15 different models computed by various
authors from 1947 to 1959 which differ in assumed laws
of absorption and in chosen chemical composition. There
are 2 figures; 3 tables; and 21 references; 5 Soviet, 1
Chinese, 2 German, 13 U.S. The most recent U.S. references
are: M. Schwarzschild, R. Howard, R. Harm, Astrophys.
J. 125, 233, 1957; O. Abell, Astrophys. J., 121,
430, 1955; I. Epstein, R. Motz, Astrophys. J., 117,
311, 1953; Ph. Morse, Astrophys. J., 92, 27, 1940;
R. L. Sears, Astron. J., 63, 53, 1958; Astrophys. J.,

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Structure of the Sun

78006
SOV/33-37-1-6/31

ASSOCIATION:
129, 489, 1959.
Sternberg State Astronomical Institute and Computing
Center of Moscow State University (Gos. astronomicheskiy
in-t imeni P. K. Shternberga, Vychislitel'nyy tsentr MGU)

SUBMITTED: September 5, 1959

Card 4/4

VOLKONSKAYA, T.G.

"THE EFFECT OF MULTIPLE SCATTERING UPON THE DEVELOPMENT OF ELECTRON-
PHOTON AVALANCHES"
T. G. Volkonskaya, I.P. Ivanenko, G.A. Timofeyev

The longitudinal development of electron-photon avalanches was calculated for
the first rad. Units of the absorber. The calculations were carried out for two
materials -- lead and photoemulsion. Avalanches caused by primary electrons and
photons of $E = 10^{12}$ ev are considered. The cross sections of the Bremsstrahlung
process and of pair production were determined by the formulas given by A.B. Migdal[1],
which take into consideration the effect of multiple scattering. The average energy
spectra for electrons and photons were obtained at depths ranging from 0.25 to 2 rad.
unites (some of the results -- up to 4 rad. units). Detailed fluctuation curves have
been plotted for approximately 500 cases; the type of fluctuations at small depths
is discussed. The experimental results are compared with calculations made by other
authors.

report presented at the International Cosmic Ray Conference, Moscow, 6-11 July 1959

SOV/56-35-1-48/59

AUTHORS: Volkonskaya, T. G., Ivanenko, I. P.,
               Timofeyev, G. A.

TITLE: On the Influence of the Multiple Scattering Effects on
               the Evolution of an Electron-Photon Shower of High Energy in
               Lead (O vliyanii effektov mnogokratnogo rasseyaniya na
               razvitiye elektronno-fotonnogo livnya bol'shoy energii v
               svintse)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
               Vol. 35, Nr 1, pp. 293 - 294 (USSR)

ABSTRACT: This paper describes   the results of the calculations
               of the longitudinal evolution of 154 showers caused by a
               primary electron with $E = 10^{12}$ eV for 2 t-units and of 40
               showers caused by a primary electron and photon in lead
               for 4 t-units. The calculations were carried out by means
               of the electronic computer "Strela" according to the
               Monte-Carlo (Monte-Karlo) method. The cross sections
               of the bremsstrahlung and pair-production processes were
               taken from a paper by Migdal (Ref 4), but the authors took
               into account that the refraction index of the medium is

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On the Influence of the Multiple Scattering Effects   SOV/56-35-1-48/59
on the Evolution of an Electron-Photon Shower of High Energy in Lead

         different from 1. A diagram demonstrates the average
         energy spectra of the electrons for the depths which
         correspond to 0,5; 1,0; 1,5; and 4 t-units. According
         to this diagram, the energy spectrum is changed by multiple
         scattering: There are more high-energy particles and less
         low-energy particles($< 10^9$ eV) with respect to the usual
         spectrum. Finally,the authors make some comments on the
         fluctuations of the number of shower particles. There are
         1 figure, 1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State Uni
               versity)

SUBMITTED: April 8, 1958

Card 2/3

VOLKONSKIY, A.

From work practice in improving economically weak collective
farms. Vop. ekon. no.11:59-68 N '63.   (MIRA 17:2)

1. Nachal'nik Torzhokskogo proizvodstvennogo kolkhozno-
sovkhoznogo upravleniya Kalininskoy oblasti.

SHOSTAKOVICH, D.; CHULAKI, M.; PEYKO, N,; BOGOSLOVSKIY, Nikita;
    VOLKONSKIY, A.; ANDREYEV, N., akademik; SKRYABINA, A.N.;
    SHABORKINA, A.

    More discussion on the photoelectronic music synthesizer.
    Znan.sila 35 no. 11:28 N '60.   (MIRA 13:12)
                  (Electroacoustics)

VOLKHONSKIY, A.I. (Mozhaysk)

Solving equations by the method of selection. Mat. v shkole no.5:32-35 S-O '60.
(Equations)   (MIRA 13:10)

Volkonskiy, A. U.

3(5)   PHASE I BOOK EXPLOITATION   SOV/2821

Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh meto-
    dov razvedki

Razvedochnaya i promyslovaya geofizika, vyp. 24 (Exploration and In-
    dustrial Geophysics, No. 24) Moscow, Gostoptekhizdat, 1958. 58 p.
    (Series: Obmen proizvodstvennym opytom) 4,500 copies printed.

Ed.: M.K. Polshkov; Exec. Ed.: Ye. G. Pershina; Tech. Ed.: I.G.
    Fedotova.

PURPOSE: This booklet is intended for geophysicists as well as en-
    gineers and technicians engaged in geophysical work.

COVERAGE: This collection of articles discusses new methods of in-
    terpreting electrical logging, gravimetric and seismic data, and
    describes industrial geophysical instruments (cementometer, per-
    forator, etc.). Improvements made on older apparatus (e.g., a
    change in the design of a perforator for radioactive electrical
    logging) are also discussed. References accompany each article.

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Exploration and Industrial Geophysics (Cont.)   SOV/2821

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Exploration and Industrial Geophysics (Cont.)   SOV/2821

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                                                             12-31-59

PITIMTSEV, G.N.; VOLKONSKIY, A.V.

Improving the system of automatic amplification control at the
SS-26-51D siismic stations. Razed i prom. geofiz. no.24:3-8 '58.
(MIRA 11:12)

(Seismometry) (Amplifiers, Electron)

AREF'YEV, V.A.; VOLKONSKIY, B.V.; SEMENDYAYEV, A.F.

Main trends in the improvement of the technology of cement
manufacture. TSement 28 no.2:5-6 Mr-Ap '62.   (MIRA 15:8)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy
i nauchno-issledovatel'skim rabotam tsementnoy promyshlennosti.
              (Cement plants)

VOLKONSKII, B. V.

Hydraulic activity of granulated slags. N. A. Toropov and B. V. Volkonskii. Doklady Akad. Nauk S.S.S.R. 66, 95-7(1949).—Expts. were conducted with slags synthesized from mixts. of $CaCO_3$, SiO_2, and Al_2O_3 in a Tamman furnace. After complete melting, the slags were subjected to rapid cooling (water granulation). The product was used to det. content of vitreous phase and of crystals and also subjected to isothermal treatments in a muffle furnace to det. optimum conditions of crystn. Treatment at 850° resulted in small crystals, chiefly spherolite; at 1300° the crystals were much larger. Residual glass was not observed in any of the cases. Physicomech. tests have shown that the cryst. slags were more active than the vitreous. Slags which were crystd. at lower temp. had a spherolite structure and showed a tendency toward lower strength during prolonged periods of hardening. The hydraulically more active crystd. slags possessed a smaller reserve of heat energy. In some cases, slags of vitreous structure which had a greater reserve of heat energy, were hydraulically less active than slags of the same compns. which were crystd. and had a smaller reserve of heat energy. Slags which were heated at 850 and 1300° showed greater compressive strength than the original slag; this is due mostly to the presence of calcium aluminates, particularly $5CaO.3Al_2O_3$ and $CaO.Al_2O_3$. The activity of slag is governed by its chem. compn. and the ratio of vitreous and cryst. components; for blast-furnace slags of different compns. this ratio can have a wide range.

B. Z. Kamich

KUBITS, M.M., inzhener; VOLKONSKIY, B.V., inzhener.

Water cooling of bodies of rotary kilns. TSement 20 no.1:30
Ja-F '54.   (MLRA 7:2)
                                        (Kilns, Rotary)

VOLKONSKIY, B.V.

5

Influence of fluorine salts on tricalcium aluminate at high temperatures. N. A. TOROPOV, B. V. VOLKONSKII, AND V. I. SADKOV. *Tsement*, 21 [4] 12–13 (1955).—Roentgen-ionization analysis was used to determine the effect of 5% K, Na, and Ca fluoride on tricalcium aluminate at temperatures up to 1500°C. Sodium and K fluorides begin to exert their influence and cause decomposition of tricalcium aluminate at 800° into pentacalcium aluminate and free CaO. Above 1300°, the influence of these salts ceases. The action of CaF$_2$ is similar to that of NaF and KF, but tricalcium aluminate decomposes at $t \approx 1000°$.

B. Z. K.

VOLKONSKIY, B.V., inzhener; SADKOV, V.I., inzhener.

Changes in the interplane crystal lattice space of clinker minerals under the influence of temperature. Trudy GIPROTSEMENT 19:126-132 '56.
(Crystal lattices)   (Silicates)   (MIRA 10:4)

VOLKONSKIY, B.V., inzhener; SUDAKAS, L.G., inzhener.

Isotopic exchange processes and diffusion in calcium silicates.
TSement 23 no.3:17-19 My-Je '57.   (MLRA 10:7)
    (Calcium sulfate)   (Radioisotopes—Industrial applications)

VOLKONSKIY B.V.

TOROPOV, N.A.; VOLKONSKIY, B.V.; SADKOV, V.I.

On the polymorphism of bicalcium silicate. Dokl. AN SSSR
112 no.3:467-469 Ja '57.   (MLRA 10:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut "Giprotsement."
Predstavleno akademikom P.A. Rebinderom.
            (Calcium silicates)

VOLKONSKIY, B.V., kand. tekhn. nauk; SHTEYYERT, N.P., kand. tekhn. nauk

New standards stimulate the high quality of cement. Standarti-
zatsiia 29 no. 11:30-31 N '65   (MIRA 19:1)

VIKTORENKOV, V.I., inzh.; VOLKONSKIY, B.V., kand. tekhn. nauk

Circulation of alkali in kilns with cyclonic heat exchangers.
TSement 31 no. 6:12-14 N-D '65.   (MIRA 18:12)

1. Gosudarstvennyy vsesoyuznyy institut po proyektirovaniyu
i nauchno-issledovatel'skim rabotam tsementnoy promyshlennosti,
Leningrad.

VOLKONSKIY, B.V., kand.tekhn.nauk; SYCHEV, M.M., kand.tekhn.nauk

Achievements in the chemistry of cements at the service of
technology. TSement 30 no. 2:5-7 Mr-Ap '64. (MIRA 17:5)

1. Vsesoyuznyy gosudarstvennyy nauchno-issledovatel'skiy i
proyektnyy institut tsementnoy promyshlennosti i Tekhnologicheskiy
institut im. Lensoveta.

VOLKONSKIY, B.V., kand. tekhn. nauk; PANKRATOV, V.L., kand. tekhn. nauk

Reviews and bibliography. TSement 30 no.4:24- p.3 of cover Jl-Ag '64.
(MIRA 17:11)

VOLKONSKIY, B. V.

Processes of the isotope exchange and diffusion in di- linn silicate. ... Tsement 23, No. 3, 17 [19...]. The exchange reaction between CaO, indicated by Ca[45], with 3CaO.SiO₂ and 2CaO.SiO₂ (in their β- and γ-modifications) was studied by exams. of the phenol-alc. ext. of the sintered mixes of the solid reactants (pressed pellets, thermally treated). The exchange and diffusion of Ca[45] is a typical function of the temp. of the sintering process, and of the exposure time. The process goes readily in β-2CaO.SiO₂ at 1400° (100%), but only 20% at 1000°, for the reaction CaO + 2CaO.SiO₂ → 3CaO.SiO₂, whereas in the mix CaO + 3CaO.SiO₂ only an exchange occurs. The reaction with γ-2CaO.SiO₂ is much slower than in the β modification. The theory of the solid-state diffusion in such systems based on the 2nd Fick law is developed for the case of a pellet of 3CaO.SiO₂ pressed in contact with a pellet of Ca[45]O at elevated temps. The expts. give for the temp. function of the diffusion coeff. an Arrhenius-type equation $D = Ae^{-Q/RT}$, with the data $A = 5.5 \times 10^{4}$ sq. cm./sec.; $Q = 95,000$ cal./mole. ... W. ...

VOLKONSKIY, B.V.; SADKOV, V.I.

Study of the viscosity of cement fusions. Trudy Giproteement
no.27:21-27 '63. (MIRA 17:12)

OKOROKOV, S.D.; VOLKONSKIY, B.V.; SATALKINA, M.A.

Study of the formation process of anhydrous calcium aluminate
sulfate with the aid of the ionizing high-temperature X-ray
installation. Trudy Giprotsement no. 26:3-18 '63. (MIRA 17:5)

VOLKONSKIY, Boris Vasil'yevich; KONOVALOV, Petr Fedorovich; MAKASHEV,
    Sergey Dmitriyevich; TOROPOV, N.A., doktor tekhn. nauk, prof.,
    red.; MAKASHEV, S.D., nauchn. red.

[Mineralizers in the cement industry] Mineralizatory v tsement-
noi promyshlennosti. Moskva, Stroiizdat, 1964. 197 p.
                                          (MIRA 17:4)

1. Chlen-korrespondent AN SSSR (for Toropov).

VOLKONSKIY, B.V., kand. tekhn. nauk

　　　Reviews　and bibliography. TSement 29 no.5:23-24 S-O '63.

　　　　　　　　　　　　　　　　　　　　　　　(MIRA 16:11)

KONOVALOV, P.F.; VOLKONSKIY, B.V.; KHASHKOVSKAYA, A.P.; TOROPOV,
        N.A., red.; ROTENBERG, A.S., red.; ROZOV, L.K., tekhr.
        red.

    [Atlas of the microstructures of cement clinkers, refractories,
    and slags]Atlas mikrostruktur tsementnykh klinkerov, ogneupovov
    i shlakov. Pod red. N.A.Toropova. Leningrad, Gos.izd-vo lit-
    ry po stroit., arkhit. i stroit. materialam, 1962. 204 p.
                                                  (MIRA 15:11)
    1.Chlen-korrespondent Akademii nauk SSSR deystvitel'nyy chlen
    Akademii stroitel'stva i arkhitektury SSSR (for Toropov).
        (Cement clinkers) (Refractory materials)   (Slag)

OKOROKOV, S.D.; VOLKONSKIY, B.V.; YARKINA, T.N.

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta i Gosudarstvennyy institut proyektirovaniya predpriyatiy i po nauchno-issledovatel'skim rabotam tsementnoy promyshlennosti.
(Calcium aluminates)
(Cement clinkers)

VOLKONSKIY, B.V.; SADKOV, V.I.; SERGUNIN, V.M.

Study of hydrated clinker minerals at temperatures below the
freezing point. TSement 27 no.6:19-22 N-D '61.   (MIRA 15:3)
                    (Cement clinkers)

PHASE I BOOK EXPLOITATION   SOV/5670

Konovalov, P. F., N. P. Shteyyert, A. N. Ivanov-Gorodov, and B. V. Volkonskiy

Fiziko-mekhanicheskiye i fiziko-khimicheskiye issledovaniya tsementa; metody i apparatura (Physicomechanical and Physicochemical Analysis of Cement; Methods and Apparatus) Leningrad, Gosstroyizdat, 1960. 318 p. Errata slip inserted. 5,000 copies printed.

Scientific Ed.: V. F. Krylov, Candidate of Technical Sciences; Ed. of Publishing House: A. S. Rotenberg; Tech. Ed.: Ye. A. Pul'kina.

PURPOSE: This book is intended for technical personnel and scientists in factory and research laboratories who are engaged in testing and investigating cements and other binding materials.

COVERAGE: The book discusses chemical, petrographic, ionization-radiographic and other methods used in physicochemical and -mechanical investigations of cements and describes the necessary equipment. Materials from both Soviet and non-Soviet sources are reviewed. No personalities are mentioned. There are 49 references: 38 Soviet, 8 English, and 3 German.

Card 1/10

VOLKONSKIY, B. V.

Cand Tech Sci - (diss) "Study of polymorphisms and tri- and di-calcium silicates and the effect of ferrous oxide on the most important clinker materials." Leningrad, 1961. 14 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Leningrad Order of Labor Red Banner Technological Inst imeni Lensovet); 180 copies; price not given; (KL, 6-61sup, 215)

VOLKONSKIY, B.V.;   KHASKOVSKAYA, A.P.

Some structural and mineralogical characteristics of Portland
cement Klinkers.   Trudy Giprotsement no. 21:44-55 '59.
(MIRA 13:12)

(Cement clinkers)

TOROPOV, N.A.; VOLKONSKIY, B.V.

 Polymorphous conversions of $3CaO \cdot SiO_2$ and the effect of ferrous
oxide on $3CaO \cdot SiO_2$ and other clinker minerals. TSement 26
no. 6:17-20 N-D '60.
 (MIRA 13:12)
   (Portland cement)   (Silicates)

KONOVALOV, P.F.; SHTEYYERT, N.P.; IVANOV-GORODOV, A.N.; VOLKONSKIY,
     B.V.; KRYLOV, V.F., kand.tekhn.nauk, nauchnyy red.; ROTENBERG,
     A.S., red.izd-va; PUL'KINA, Ye.A., tekhn.red.

[Studying physical, chemical, and mechanical properties of
cement; methods and testing equipment] Fiziko-mekhanicheskie
i fiziko-khimicheskie issledovaniia tsementa; metody i appara-
tura. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i
stroit.materialam, 1960. 318 p.   (MIRA 14:1)
               (Cement--Testing)

24(2,4)   PHASE I BOOK EXPLOITATION   SOV/3149

Konovalov, P. F., A. I. Yefremov, and B. V. Volkonskiy

Ionizatsionnaya rentgenostrukturnaya ustanovka dlya issledovaniya
  kristallicheskikh veshchestv pri razlichnykh temperaturakh (Ioni-
  zation X-ray Apparatus for Study of Crystalline Substances at
  Various Temperatures) Leningrad, 1958. 133 p. Errata slip in-
  serted. 1,000 copies printed.

Sponsoring Agency: Nauchno-tekhnicheskoye obshchestvo promyshlenno-
  sti stroitel'nykh materialov, Leningradskoye oblastnoye pravleniye.

Ed. (Title page): N. A. Toropov, Member of the Academy of Building
  and Architecture, USSR, Professor, Doctor of Technical Sciences;
  Ed. (Inside book): V. I. Sadkov.

PURPOSE: This book is intended for physicists and engineers in
  industry, civil engineers, physical metallurgists, researchers
  in scientific research institutes and persons affiliated with
  higher educational institutions who are interested in the con-
  struction, application and operation of ionization x-ray units

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Ionization X-ray Apparatus (Cont.)   SOV/3149

for studying the composition and structure of building materials, metals and other substances.

COVERAGE: The book gives a detailed description of the development and operation of an ionization x-ray unit by members of the laboratory for physical chemistry and petrography at Giprotsement and present some practical methods for its utilization. The second part of the book reviews a number of investigations which demonstrate the superiority of this method in the analysis of polycrystalline substances and building materials, and in studies of polymorphic transformation processes, clinker formation, and the hydration processes of cements, clinker metals and other materials. Many of the figures are reproductions of ionization roentgenograms of hydration and dehydration products of metallic salts. No personalities are mentioned. There are no references.

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Ionization X-ray Apparatus (Cont.)   SOV/3149

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