L 30048-65   EWT(m)/EPF(c)/EWG(m)/EWP(j)/T/EWA(c)   Pc-4/Pr-4   IJPL   RM/RWH

ACCESSION NR: AP5006693   S/0076/65/039/002/0433/0435

34
33
B

AUTHOR: Strunin, V. A.

TITLE: Condensed zone burning of explosives

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 2, 1965, 433-435

TOPIC TAGS: explosive burning, burning velocity, reaction kinetics, mercuric fulminate, explosive

ABSTRACT: Previous studies of the condensed phase burning of explosives do not account for the kinetics of the chemical reactions occurring during burning. An equation which takes into account the kinetics of chemical reactions was derived for calculating the condensed phase burning velocity (u) of explosives. Expressions correlating other parameters of the burning (temperature, T; degree of conversion n; degree of dispersion, n_d; activation energy, E; and thermal diffusivity, a) of explosives were also derived. To verify the theory, u, n, n_d, and a for the condensed phase burning of mercuric fulminate, which burns without flame in vacuo, were calculated using the equations derived. The calculated data are in fair agreement with experimental data. Orig. art. has: 1 figure and 11 formulas.   [PS]

Card 1/2

L 30048-65

ACCESSION NR: AP5006693

ASSOCIATION: Akademiya nauk SSSR, Institut khimicheskoy fiziki (Academy of Sciences SSSR, Institute of Chemical Physics)

SUBMITTED: 18Jan64   ENCL: 00   SUB CODE: WA

NO REF SOV: 006   OTHER: 001   ATD PRESS: 3194

Card 2/2

KAZANSKIY,V.B.; MARDALEYSHVILI, R.Ye.; STRUNIN, V.P.; VOYEVODSKIY, V.V.

Velocity constant of hydrogen dissociation on a palladium surface
as determined from data on diffusion in palladium (with English
summary in insert). Zhur.fiz.khim. 30 no.4:821-826 Apr. '56.
(MLRA 9:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova
Akademiya nauk SSSR.
        (Hydrogen) (Palladium)

STRUNIN, V. P.,

"Diffusion of Hydrogen Through Palladium and Determining the Dissociation Rate for Hydrogen on the Surface of Palladium," Research in Physics and and Radio Engineering, Moscow, Oborongiz, 1958. p 76.

The book is a collection of 13 articles written by instructors and graduate and undergraduate students of the Moscow Inst. of Physics and Technology. The articles discuss problems in radiophysics, optics and physics.

STRUNIN, V.P.

Diffusion of hydrogen through palladium and determination of the
hydrogen dissociation constant on the surface of palladium by means
of this diffusion. Trudy MFTI no.2:76-80 ' 58.   (MIRA 11:12)
        (Diffusion) (Hydrogen) (Palladium)

KAZANSKIY, V.B.; STRUNIN, V.P.

Nature of the temperature maximum of the reaction rate for the
hydrogenation of ethylene on metals. Kin. i kat. 1 no. 4:553-
557 N-D '60.   (MIRA 13:12)

1. Institut khimicheskoy fiziki AN SSSR.
            (Ethylene)   (Hydrogenation)

STRUNIN, V.P.; FRANKEVICH, Ye.L.

Method for producing glass and quartz diaphragms for flow
type systems of mass spectrometers. Prib. i tekh. eksp. 9
no.2:175-176 Mr-Ap'64.   (MIRA 17:5)

1. Institut khimicheskoy fiziki AN SSSR.

L 6521-66   EWT(m)/EPF(c)/T/EWA(c)   WE

ACC NR: AP5026027   SOURCE CODE: UR/0405/65/000/001/0059/0069

AUTHOR: Merzhanov, A. G. (Moscow); Strunina, A. G. (Moscow)

ORG: none

TITLE: Relationships of thermal explosion under heating at constant rate

SOURCE: Nauchno-tekhnicheskiye problemy goreniya i vzryva, no. 1, 1965, 59-69

TOPIC TAGS: thermal explosion, combustion, ignition, combustion theory, kinetics, reaction kinetics

ABSTRACT: A theoretical study has been made of thermal explosion with varying temperature of the surrounding medium. The parameters of thermal explosion were calculated for monomolecular, bimolecular, and autocatalytic reactions. Exact and approximate solutions were obtained by numerical integration and by pseudoisothermal approximation, respectively. A plot of explosion temperature vs the rate of heating showed that in monomolecular reactions, the explosion temperature decreases with increasing rate of heating to the critical value corresponding to static conditions. In autocatalytic reactions, depending on conversion, the explosion temperature either first increases and then decreases or it only increases. Orig. art. has: 2 figures, 23 formulas, and 5 tables.   [PV]

SUB CODE: FP/ SUBM DATE: 02Nov64/ ORIG REF: 006/ ATD PRESS: 4/89

Card 1/1

L 6420-66   EWT(1)/EWT(m)/EPF(c)/T/FCS(k)/EWA(c)   WE

ACC NR: AP5026074   SOURCE CODE: UR/0405/65/000/002/0108/0114

AUTHOR: Strunina, A. G.; Merzhanov, A.G.; Mayofis, Z. B.

ORG: None

TITLE: Dynamic thermal explosion conditions. Part 2. Thermal condition regularities during constant rate cooling

SOURCE: Nauchno-teknicheskiye problemy goreniya i vzryva, no. 2, 1965, 108-114

TOPIC TAGS: heat of explosion, cooling rate, thermal explosion, explosion intensity

ABSTRACT: The first part of this paper (Nauchno-tekhnicheskiye problemy goreniya i vzryva, 1965, 1) investigated thermal explosion conditions during the heating of the surrounding medium. The present article studies these conditions for the case of cooling. The explosion pattern and its basic characteristics are studied. The derivation of the approximate solution to the problem, the results of numerical computer integration of an original system of equations, and a discussion of the critical heating rate, pre-explosion reaction intensity, pre-explosion heating, and of other pertinent parameters describing the events are given. The article concludes with a discussion of the application of the linear cooling method to the experimental study of the thermal explosion of strongly self-accelerating reactions. The authors thank A. S. Ukolov for several computations carried out during the investigation. Orig. art. has: 13 formulas, 5 figures, and 3 tables.

UDC: 541.126+536.48

Card 1/1   SUB CODE: WA,FP,TD / SUBM DATE: 23Nov64 / ORIG REF: 003

L 15370-66   EWT(1)/EWT(m)/EPF(n)-2/FCC/T/ETC(m)-6/EWP(n)   WW/JW/JWD/WE
ACC NR: AP6004428   SOURCE CODE: UR/0414/65/000/003/0036/0040

AUTHOR: Strunina, A. G.(Moscow); Gontkovskaya, V. T. (Moscow); Merzhanov, A. G.
(Moscow)

ORG: none

TITLE: Dynamic conditions of thermal explosion. III. Temperature field during
heating and problems of the transition from spontaneous combustion to ignition

SOURCE: Fizika goreniya i vzryva, no. 3, 1965, 36-40

TOPIC TAGS: chemical explosion, combustion kinetics, temperature distribution

ABSTRACT: Equations for thermal explosion during heating are numerically solved
with regard to temperature distribution. The paper is a continuation of previous
studies (A. G. Merzhanov, A. G. Strunina, Scientific and Technical Problems of Com-
bustion and Explosion, 1965, 1; A. G. Merzhanov, A. G. Strunina, Z. B. Mayofis,
Scientific and Technical Problems of Combustion and Explosion, 1965, 2) and the no-
tation is the same as that used in these articles. The problem was solved on a com-
puter. Analysis of the numerical solution shows that ignition under dynamic heating
conditions is completely analogous to the process under static conditions. The

Card 1/3   UDC: 536.46+536.48

L 15870-66
ACC NR: AP6004428

O

basic parameter in defining the exchange conditions is the rate of heating ω.
Curves are given showing nonstationary temperature profiles for a monomolecular re-
action at a Biot number of infinity and various values of ω. Four regions are dis-
tinguished with respect to heating rate: 1. $\omega < \omega_*$ -- ignition does not take place;
2. $\omega_* < \omega < \omega'_*$ -- region of spontaneous combustion. For the case of heating close to
the surface, a maximum is developed in the heating cycle which then moves to the
center of the system (ignition starts at the center); 3. $\omega > \omega'_*$ -- the transition re-
gion for ignition conditions. The heating maximum does not reach the center, and
ignition starts some distance away. As the heating rate is increased, the coordi-
nate for generation of combustion moves toward the surface; 4. $\omega \gg \omega'_*$ -- the limiting
region of ignition. A table is given showing the upper and lower critical heating
rates for various Biot numbers. The data show that the spontaneous combustion re-
gion is considerably wider under dynamic conditions than for static processes. This
is due to the fact that conditions for generation of a heating maximum are less fa-
vorable in the dynamic process because of the temperature increase on the surface of
the system. The region of spontaneous combustion under dynamic conditions increases
in latitude with a reduction in the Biot number. These data are compared with solu-
tions disregarding temperature distribution. Curves are given based on both systems
of equations for the temperature of onset of combustion as a function of heating

Card 2/3

L 15870-66
ACC NR: AP6004428   O

rate. The curves show a divergence of only about 2°C throughout the entire region
of spontaneous combustion. Thus temperature distribution may be disregarded in this
region. Orig. art. has: 4 figures, 1 table, 4 formulas.

SUB CODE: 21/ SUBM DATE: 22Jan65/ ORIG REF: 004/ OTH REF: 000

Card 3/3

ACC NR: AP6029750   (A)   SOURCE CODE: UR/0414/66/000/002/0003/0009

AUTHOR: Strunina, A. G. (Moscow); Abramov, V. G. (Moscow); Merzhanov, A. G. (Moscow)

ORG: none

TITLE: Dynamic regimes of a thermal explosion. IV. Experimental investigation of the thermal explosion of some substances

SOURCE: Fizika goreniya i vzryva, no. 2, 1966, 3-9

TOPIC TAGS: thermal explosion, tetryl, nitrocellulose, critical heating rate, critical temperature, HEAT TRANSFER COEFFICIENT, HEATING

ABSTRACT: The theoretical principles of thermal explosion postulated in previous studies of this series are verified by experiments with heating and cooling of tetryl, nitrocellulose, and DINA charges in a reaction vessel with a low heat-transfer coefficient and with a linear temperature increase in the surrounding medium. For tetryl charges with a 0.8 cm diameter and a critical temperature of 146C, the heating rate varied between 0.8 and 17.4°/hr. The explosion occurred only at heating rates above the critical heating rate (2.4°/hr); at heating rates below the critical, tetryl decomposed without an explosion. When the heating rate increased from 0.8 to 1.9°/hr, the maximum temperature increased from 5.8 to 12.2C. The critical explosion temperatures for the three explosives are given for various heating and cooling rates. Orig. art. has: 4 tables, 5 figures, and 3 formulas.   [PS]

Card 1/1

L 43036-66   EWT(1)/EWP(m)/EWT(m)/T   WW/JW/JWD

ACC NR: AP6029761   (A)   SOURCE CODE: UR/0414/66/000/002/0090/0095

AUTHOR: Strunina, A. G. (Moscow); Abramov, V. G. (Moscow); Lovlya, S. A. (Moscow); 79
Dement'yev, V. A. (Moscow)   78
ORG: none   B

TITLE: Study of the conditions of application of the thermally stable explosive
No. 2 at high temperatures

SOURCE: Fizika goreniya i vzryva, no. 2, 1966, 90-95

TOPIC TAGC: explosive, thermal stability, critical temperature, ~~induction period~~,
ignition delay , explosive charge, critical pressure, high temperature effect,
ignition, critical point

ABSTRACT: The conditions under which the thermally stable explosive No. 2[II]
(unspecified) may be used, e.g., under elevated temperatures and pressures, in deep
oil wells, were studied experimentally and theoretically. Critical ignition tempera-
ture T_*, critical induction period t_*, and critical charge diameter d_* were measured
in a constant temperature reaction vessel with a layer of sand between the charge
and the reactor walls. Equations were derived for calculating the critical tempera-
tures of explosive No. 2 and for calculating the critical induction period for
the explosive at any temperature. The upper temperature limit for the application
of explosive No. 2 decreased with increasing charge diameter from 190 at $d = 1.6$ cm
to 175C at $d = 5.0$ cm. The experimental data are in good agreement with the
calculated data. Since the induction period increased with increasing charge diameter,

Card 1/2   UDC: 541.427.6

L 4036-66

ACC NR: AP6029761

large diameter charges are not practicable. It is shown that the explosive system has a "memory effect", i.e., the self-ignition delay in charges kept at certain temperatures for a second time, $t_2 = t_{ind} - t_1$, where t_1 is the ignition delay time after the first thermostating. It is shown that the explosion energy and detonation velocity of the charge decreased with increasing residence time of the charge (in an oil well), and the sensitivity of the charge to impact increased with the residence time. Orig. art. has: 3 tables, 3 figures, and 4 formulas. [PS]

SUB CODE: 19/SUBM DATE: 21Jul65/ORIG REF: 007/ATD PRESS: 5066

Card 2/2 qc

STRUNINA, A.V.; ZEL'VENSKIY, Ya.D., kand.khim.nauk; IVANOVSKIY, F.P., kand.tekhn.nauk

Absorption of carbon disulfide by monoethanolamine solutions.
Trudy GIAP no.7:195-212 '57.   (MIRA 12:9)
       (Gas purification) (Carbon disulfide) (Ethanol)

ZEL'VENSKIY, Ya.D.; STRUMINA, A.V.

Solubility of hydrogen sulfide in methanol at a low tem-
perature. Gaz.prom. 5 no.1:42-47 Ja '60.
(MIRA 13:4)

(Hydrogen sulfide) (Methanol)

ZEL'VENSKIY, Ya.D.; STRUNINA, A.V.

      Solubility of sulfur organic compounds in methanol at low temperature.
      Gaz.prom. 5 no.10:47-52 O '60.   (MIRA 13:10)
          (Sulfur organic compounds)   (Methanol)

KORDYSH, Ye.I.; LIVKE, V.A.; STRUNINA, A.V. Prinimali uchastiye: BOSANYUK,
G.P.; GOLOVANOVA, E.V.; SAMOYLENKO, L.N.

Contamination of expansion gases from ammonia production by
hydrogen sulfide as a result of occurring biochemical processes.
Khim. prom. 41 no. 12:901-902 D '65   (MIRA 19:1)

L 23381-65   EWT(1)   OW
ACCESSION NR: AR5002531   S/0169/64/000/010/V005/V006

SOURCE: Ref. zh. Geofizika. Abs., 10V28

AUTHOR: Naumenko, M. F.; Paka, V. T.; Strunina, M. A.; Trinchuk, B. E.;
Chigrakov, K. I.

TITLE: Apparatus and methods for investigation of some types of turbulent
mixing

CITED SOURCE: Sb. Materialy 2 Konferentsii po probl. Vzaimodeystviye atmosf. i
gidrosf. v sev. chasti Atlant. okeana. L., Leningr. un-t, 1964, 156-160

TOPIC TAGS: hydrology, hydrological instrument, turbulent mixing, oceanography,
thermohydrometer

TRANSLATION: The authors describe a set of instruments for the investigation of
turbulent mixing by direct methods. It was developed by the Kaliningradskoye
Otdeleniye Instituta Okeanografii AN SSSR (Kaliningrad Division, Institute of
Oceanography, AN SSSR). The mean velocity sensor is a thermohydrometer employing
semiconductor thermoresistors (MMT-1 and MMT-9); they were used with indirect
heating by a direct current (a heating wire of manganan is wound on the lacquer-
coated body of the thermoresistor). The accuracy of recording is 3%; sensor
Card 1/2

L 23381-65
ACCESSION NR: AR5002531

O

inertia is 1-30 sec. The maximum linear dimension is not more than 15 mm. Velo-
city fluctuations are recorded using a corner sensor of 2 nickel wires 100μ in
diameter which are stretched at right angles to one another. The sensor is used
to measure the angle of deviation of the velocity vector from the axis of the
sensor in the plane of the wires and also the instantaneous velocity; the com-
ponents are computed from the angle and modulus of velocity. With the sensor
in a vertical position it is possible to record the vertical fluctuations; when in
a horizontal position -- the transverse fluctuations. Sensitivity of the sensor
is about 1 mm/sec. per 1 mm of the record; inertia is about 0.01 sec. Temperature
was measured by a group of thermocouples or by a MT-54 thermistor; sensitivity of
the temperature sensors is 0.005 /mm. All data obtained under field conditions
were analyzed in the office using semiautomatic correlators. The described
apparatus was used for a study of mixing in shallow water (in the Liyelupe River).
The derived data characterize the turbulent system of discharge and wind currents
in a river under homogeneous thermal conditions. K. Chernoskutov.

SUB CODE: ES   ENCL: 00

Card   2/2

L 23381-65   EWT(l)   GW
ACCESSION NR: AR5002531   S/0169/64/000/010/V005/V006

SOURCE: Ref. zh. Geofizika. Abs., 10V28

AUTHOR: Naumenko, M. F.; Paka, V. T.; Strunina, M. A.; Trinchuk, B. E.;
Chigrakov, K. I.

TITLE: Apparatus and methods for investigation of some types of turbulent
mixing

CITED SOURCE: Sb. Materialy 2 Konferentsii po probl. Vzaimodeystviye atmosf. i
gidrosf. v sev. chasti Atlant. okeana. L., Leningr. un-t, 1964, 156-160

TOPIC TAGS: hydrology, hydrological instrument, turbulent mixing, oceanography,
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Oceanography, AN SSSR). The mean velocity sensor is a thermohydrometer employing
semiconductor thermoresistors (MMT-1 and MMT-9); they were used with indirect
heating by a direct current (a heating wire of manganan is wound on the lacquer-
coated body of the thermoresistor). The accuracy of recording is 3%; sensor

Card 1/2

L 23381-65
ACCESSION NR: AR5002531   *O*

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city fluctuations are recorded using a corner sensor of 2 nickel wires 100μ in
diameter which are stretched at right angles to one another. The sensor is used
to measure the angle of deviation of the velocity vector from the axis of the
sensor in the plane of the wires and also the instantaneous velocity; the com-
ponents are computed from the angle and modulus of velocity. With the sensor
in a vertical position it is possible to record the vertical fluctuations; when in
a horizontal position -- the transverse fluctuations. Sensitivity of the sensor
is about 1 mm/sec. per 1 mm of the record; inertia is about 0.01 sec. Temperature
was measured by a group of thermocouples or by a MT-54 thermistor; sensitivity of
the temperature sensors is 0.005 /mm. All data obtained under field conditions
were analyzed in the office using semiautomatic correlators. The described
apparatus was used for a study of mixing in shallow water (in the Liyalupe River).
The derived data characterize the turbulent system of discharge and wind currents
in a river under homogeneous thermal conditions. K. Chernoskutov.

SUB CODE: ES   ENCL: 00

Card   2/2

PROCESSES AND PROPERTIES INDEX

*Investigation of the Alloys of the Ternary System Copper Nickel-Lead.
V. A. Nemilov and T. A. Strunina (Zhur. Priklad. Khim., 1946, 19, (5,6),
440-460). [In Russian]. Thermal analyses and hardness measurements

2

were carried out along three sections having const. copper; nickel ratios
(1;1, 4;1, and 1; 2) and two sections having const. lead contets (60 and
30 at . -% The liquidus surface and hardness/composition curves were c n-
structed. Segregation in the ternary copper-lead and nickel-
lead systems. All alloys lying outside these re-ions of segregation consisto
two phases: a soft, lead-rich one and a hard, nickel-copper one. NA

ASM SLA   METALLURGICAL LITERATURE CLASSIFICATION

C. 4

Investigation of the system palladium silver nickel. V. A. Nemilov and T. A. Strunina. *Izvel. Sektora Platiny i Drugikh Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* No. 24, 15-25(1949). —This system had 3 distinct fields. The field of ternary solid solns. extended from the Pd corner (apex on a triangular diagram) down to approx. 75% Pd and then in 2 narrow strips running along the Pd-Ag and Pd-Ni lines. A relatively large field of sepn. in the liquid state extended from the Ag line (base of triangle) narrowing upward to approx. 45% Pd. Between these 2 fields was a field of heterogeneous mixts. Details of thermal analysis, microstructure, electroresistance, and hardness are tabulated and presented graphically.
M. Hoseh

STRUNINA, T. A.

Strunina, T. A. (Chemistry) The works of V. A. Nemilov on equilibria of metals. P. 97

Laboratory of Metallography
Jan. 17, 1951

SO: Herald of the Moscow University, Series on Physics-Mathematics and Natural
Sciences, No. 3, No. 5, 1951

STRUNINA, T. A.

Chemical Abst..
Vol. 48 No. 5
Mar. 10, 1954
Metallurgy and Metallography

Investigation of the system copper-nickel-palladium.
V. A. Nemilov and T. A. Strunina. Izvest. Sektora Platiny i
Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim.,
Akad. Nauk S.S.S.R. 26, 25-33(1951).—A study of 46
different compns. of the system, Cu-Ni-Pd, resulted in the
establishment of liquidus lines for const. percentages of Pd.
Charts show the effect of increasing the Ni content on
hardness, elec. resistance (ρₐ), and the temp. coeff. of elec.
resistance (αₙ₋ₐₐ×10⁶) for constant percentages of Pd.
Photomicrographs of several alloys are included as well as
a compn. diagram of the system.   I. R. Behrman

STRUNINA, T. A.

Investigation of the alloys of palladium with silicon.
A. T. Grigor'ev, T. A. Strunina, and A. S. Aminova (M. V.
Lomonosov State Univ., Moscow). *Invest. Sektora Platiny
i Drig. Blagorod. Metal., Inst. Obshchei i Neorg. Khim.,
Akad. Nauk S.S.S.R.* No. 27, 219-22(1952).—Alloys from
7.2 to 82.01 at. % Si were studied by thermal analysis,
microstructure, and hardness. The alloys were prepd. with
Pd pptd. by Na formate from a soln. of HCl and with Si
contg. 0.95 wt. % Fe. Fifteen-g. melts were made in corun-
dum crucibles under BaCl₂ slag in a Kryptol furnace. For
analysis, the alloys were pulverized and dissolved by heating
in aqua regia. The Pd dissolved but the Si remained in the
finely divided state, partly as SiO₂. The soln. was twice
evapd. almost to dryness with HCl to remove oxides of N.
The residue was treated with distd. H₂O and filtered. The
Pd was pptd. from the neutral soln. by reduction with Na
formate in the presence of NaOAc. The Pd was filtered
off and dried at 118 to 120°. Si was detd. by difference.
Thermal analyses were made with a Kurnakov pyrometer
and Pt-Rh thermocouples and the results showed that the
equil. diagram consisted of 3 regions of eutectic reaction
sepd. by the compds. Pd₂Si and PdSi. The eutectic
temps. and compns. were: 800°, 18 at. % Si; 720°, 45;
840°, 58. The m.p. of Pd₂Si was 1250° and of PdSi was
1100°. Microstructures of cast and annealed (7 days at
700°, cooled during 6 days) alloys were etched with hot 20%
aqua regia. The structure of the annealed 56.95 at. % Si
alloy showed large Si crystals rather than the expected eu-
tectic structure. The Vickers hardness (10 kg.) of the Pd-
rich alloys increased with Si content as follows: 0 at. %
Si, 50 kg./sq. mm.; 7.20, 234.5; 14.40, 364.5; 32.00, 465.0.
A. G. Guy

STRUNINA, T. A.

Investigation of alloys of the system aluminum-palladium. V. A. Nemilov, A. T. Grigor'ev, and T. A. Strunina. *Izvest. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 1954, No. 28, 206-9.—This was the first exptl. study of this system. Twenty three alloys, ranging from 2 to 96.5 at % Pd were prepd. from refined Pd and from Al contg. 0.001 wt. % impurities by melting in a Kryptol furnace in a corundum crucible under a slag of KCl and NaCl for the Al-rich alloys and of dehydrated BaCl₂ for the Pd-rich alloys. Data from cooling-curve detns. and chem. analysis were used to construct an equil. diagram. There was a eutectic reaction involving Al or its dil. solid soln. and Al₃Pd at 630° and 7 at. % Pd, a peritectic involving Al₃Pd₂ and Al₃Pd at 794° and 25%, a peritectic involving α-AlPd and Al₃Pd₂ at 910° and 40%, a phase change from α-AlPd to β-AlPd at 1045°, a peritectic involving β-AlPd and the γ-solid soln. contg. about 78 at. % Pd at 1300° and 50%, and a region of solid-soln. formation of the γ solid soln. of Pd ranging from the

m.p. of Pd down to 1311°, from liquid compns. of 100% to about 45%, and from γ compns. of 100% to about 78%. Solid solns. formation was not studied in Al-rich alloys but occurred in the γ-phase. The compn. of γ was estd. to decrease to 85 at. % Pd at 300°. Microscopic examn. was made of alloys homogenized for 8 hrs. at 900° (Pd-rich) or for 10 hrs. at 550° (Al-rich) and cooled during about 25 hrs. to room temp. Etching of the Pd-rich alloys was with 4% nital and of the Al-rich alloys was with an aq. soln. of 1% HNO₃ + 1% HCl + 1% HF. The micrographic results agreed well with the cooling-curve data, however, some anomalies were observed in the Pd-rich alloys and it was concluded that addnl. work was needed on the Pd-rich half of the diagram. X-ray studies showed that Al₃Pd had an orthorhombic structure with $a = 7.07 \pm 0.005$, $b = 7.51 \pm 0.005$, $c = 5.07 \pm 0.005$ kX. Al₃Pd₂ was hexagonal with $a = 4.200 \pm 0.001$ and $c = 5.166 \pm 0.002$. β-AlPd was body-centered cubic of the CsCl type with $a = 3.045 \pm 0.0008$. α-AlPd was hexagonal with $a = 3.951 \pm 0.001$ and $c = 5.603 \pm 0.002$.

A. G. Guy

SOV/32-25-9-24/53

18(7)

AUTHORS: Strunina, Ye. M., Petrova, M. N.

TITLE: Application of the Method of Magnetic Metallography for an Investigation of the High-speed Steel R18

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 9, pp 1092-1093 (USSR)

ABSTRACT: For the determination of the residual austenite in R18-steel the method of magnetic metallography suggested in reference 1, was applied. The method is based on the fact that colloidal magnetic particles which are applied to the ground section in the form of a paste are accumulated at the ferromagnetic phases while the nonmagnetic phases remain free. Austenite and the carbide phase of R18-steel are nonmagnetic and therefore remain free of colloidal particles; however, they can be distinguished from one another as they exhibit different structures. Test results showed that up to 30% of the residual austenite is present in the microstructure of a steel tempered at 1,280°. After treble drawing at 560° there is no more austenite visible in the steel (Fig 2). On tempering at 1,310° the residual amount of austenite is considerably increased. Determinations of the residual austenite were also made on finished cutters, and it was established that among other

Card 1/2

SOV/32-25-9-24/53

Application of the Method of Magnetic Metallography for an Investigation
of the High-speed Steel R18

things the low strength of the cutters investigated was due
to the presence of considerable amounts of residual austenite.
There are 2 figures and 3 Soviet references.

Card 2/2

RAKHLINA, G. G.; STRONINA, Z. A.

Dyes and Dyeing

Dyeing cotton and staple fiber with cold dyes.
Tekst. prom. 12, No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

RAKHLINA, S.S.; KOZLOVA, L.P.; STRUNINA, Z.A.

Light-fast dyeing of shirting in khaki. Nauch.-issl.trudy
TSNIIKHBI '60 [publ. '62]:163-169.   (MIRA 18:2)

RAKHLINA, S.S., starshiy nauchnyy sotrudnik; STRUNINA, Z.A., mladshiy
        nauchnyy sotrudnik; KOZLOVA, L.P., mladshiy nauchnyy sotrudnik

        Ways of increasing the light-fastness of fabrics dyed with
        indigosol and vatsol dyes. Tekst.prom. 22 no.2:56-59 F '62.
                                                        (MIRA 15:3)
        1. TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobu-
        mazhnoy promyshlennosti.
                        (Dyes and dyeing)

LOGIN KIM, V. V.

"Three-Dimensional Boundary Layer of an Arbitrary Surface"

A paper presented at the 9th International Congress of Applied Mechanics, Brussels, 5-13, Sep 56

STRUNJAK, K.

Compounds of the Group V elements with mercury. II. Mercury arseno-iodide $Hg_3As_2I_4$ and mercury antimono-iodide $Hg_3Sb_2I_4$. D. Grdenić, K. Strunjak, and H. Dedić (Univ. Zagreb, Yugoslavia). Arhiv Kem. 27, 59-65(1955) (in English); cf. C.A. 48, 0855e.—The prepn., analyses, and properties of new compds. $Hg_3As_2I_4$ (I) and $Hg_3Sb_2I_4$ (II) are given. For prepg. I, 2.3 g.-atoms of Hg and 1 mole of AsI_3 were heated 10 hrs. in a sealed hard-glass tube 1 cm. in diam. and 25 cm. long, air having been previously displaced by dry CO_2. Heating at 250°, with a third of the tube in an Al block, produced on the upper parts of the tube crystals of Hg_2I_2 and HgI_2 mixed with small amts. of a brown undefined powder and drops of Hg, and at the bottom reddish brown crystal agglomerates of I. By heating the latter in a sealed glass tube as before, pure I was obtained. For prepg. II, 2.5 g.-atoms Hg and 1 mole of SbI_3 were used in the same way as with I. The temp. of the Al block was first maintained 1 hr. at 210°, then 4 hrs. at 300-10°. As a result, there were obtained Hg iodides, drops of Hg, small amts. of an undefined brown product, and at the bottom a black cryst. cake of II, which, purified as in the case of I, gave sintered crystal agglomerates of II. Chem. analyses of several purified prepns. of I and II agree with the formulas given. Crystals

(turn)

of II are dark gray, nearly black with a violet tinge, and by
dark gray in the transmitted light. X-ray investigation of
II gave $a = 21.22$ A., $c = 8.00$ A., the crystals being tetra-
gonal. Calcd. d. is 5.52 g./cc.; pienometrically d. is
5.44 g./cc. I and II do not change upon treatment with
cold H_2O or acids, but are quickly destroyed by warm concd.
HNO_3 or H_2SO_4, in the latter case yielding iodine, and blacken
in HCl. I blackened upon short exposure to daylight, but
this effect is limited to a thin surface layer only. Neither I
nor II is sensitive to air at room temp., they ignite on heat-
ing, yielding HgI_2 and Hg, and As or Sb oxide. Both
I and II are destroyed by warm $6N$ KOH, with no gas
evolution, leaving a gray powdery residue contg. the total
amt. of Hg. The total amt. of I and half of the total amt.
of As or Sb were in the alk. soln., the other half remaining
in the residue in elementary state mixed with Hg. It is
postulated that atoms of As or Sb together with Hg atoms
form in the unit cells of I or II tridimensional polymeric
octahedra, sharing all corners. The remaining cuboöctahe-
dral cavities accommodate the large iodo-arsonium or iodo-
stibonium ions. _____ N. Playsic

MODRIC, A.; STRUNJAK, R.

Effectiveness and virulence of some autochthonous varieties of
Rhizobium trifolii. Zemljiste biljka 12 no.1/3:311-317 Ja-D '63.

1. Agricultural Faculty of the University of Zagreb, Zagreb-
Maksimir.

S/064/60/000/03/19/022
B010/B008

AUTHORS: Strunkin, M. G., Gayevoy, V. I.

TITLE: Improvement of the Pneumatic Regulation Valve of the
             Type   PK(PRK)

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 3, pp. 260-261

TEXT: An improvement of the pneumatic regulation valves of the types
PK-2-6 (PRK-2-6), "BO" ("VO") and "BЗ" ("VZ") is suggested in order
that they may also be used for the regulation of smaller amounts of gas
or for cutting off the gas flow. The alterations which are schematically
shown in Figs. 1 and 2 consist, in principle, of the following: The
point of the valve needle is built as a cone (instead of bilaterally
tapered), the diameter of the upper part being reduced. The valve seat
is detachable, and a gasket of synthetic material is fitted, so that
the valve needle can be pressed tightly to the valve seat and the gas
flow can be cut off completely. The stuffing box is slightly altered,
the housing being elongated and the base box built as a hollow cylinder.
There are 2 figures.

Card 1/1

STRUNKIN, V. A.

"Oscillations of Disks in Gas Turbine Engines." Cand Tech Sci, Kazan' Aviation Inst, Kazan', 1954. (RZhMekh, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

AUTHOR: Strunkin, V.A.   SOV/147-58-1-20/22

TITLE: On the Oscillations of non-uniformly heated Turbine Discs
          (O kolebaniyakh neravnomerno nagretykh diskov turbomashin)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy,
              Aviatsionnaya Tekhnika, 1958, nr 1, p. 165 - 170 (USSR).

ABSTRACT: In oscillation calculations on discs, it is essential
      to take into account the effect of internal stresses, caused
      both by the rotation of the disc and by its non-uniform tempera-
      ture field. This paper investigates the oscillations of rot-
      ating, non-uniformly heated discs of constant thickness. The
      problem is solved by the energy method. It is shown that the
      critical frequency of a rotating non-uniformly heated disc is
      less than or equal to that of a stationary uniformly heated
      disc. For relatively thin discs with a large coefficient of
      linear expansion, the critical frequencies of uniformly and non-
      uniformly heated discs can be significantly different, which
      must be taken into account in determining their natural
      frequencies.

Card1/2

SOV/147-58-1-20/22

On the Oscillations of Non-uniformly Heated Turbine Discs

There are 3 figures and 3 tables.

ASSOCIATION: Kafedra aviatsionnykh lopatochnykh mashin, Kazanskiy
               aviatsionnyy institut (Chair of Aviation Turbines,
               Kazan' Aviation Institute)

SUBMITTED: October 26, 1957

Card 2/2   1. Turbine wheels--Oscillations   2. Oscillations--Mathematical
               analysis   3. Turbine wheels--Temperature effects

AUTHOR: Strunkin, V.A. (Kazan')   SOV/24-58-11-24/42

TITLE: The Axial Oscillations of Discs in Axial-flow Compressors
            and Turbines (K raschetu aksial'nykh kolebaniy diskov
            osevykh turbin i kompressorov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh
            Nauk, 1958, Nr 11, pp 100 - 102 (USSR)

PERIODICAL: The expressions for the natural frequencies in radial
            bending are thrown into a more convenient form by approp-
            riate choice of variables. The coefficients in the series
            that result from integrating the expressions for the
            kinetic and potential energies by parts are given in the
            table; tables of the potential and kinetic energy func-
            tions can be compiled from these figures.
            An unevenly heated disc is then considered; the strain
            energy stored is calculated in terms of the radial and
            circumferential stresses; the corresponding energies are
            given by the last two equations in the paper.
            The oscillations of bladed discs are then considered in
            a general (non-mathematical) fashion.

Card 1/2

SOV/24-58-11-24/42

The Axial Oscillations of Discs in Axial-flow Compressors and Turbines

There are 1 figure, 1 table and 3 references, 2 of which are Soviet and 1 English.

SUBMITTED: May 27, 1957

Card 2/2

S/123/60/000/02/12/015

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1960, No. 2,
p. 285, # 7194

AUTHOR: Strunkin, V. A.

TITLE: Rating the Bend of Turbine Engine Disks

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, No. 40, pp. 53-62

TEXT: The author describes a method of rating the axially-symmetric
bend of disks under the effect of outer loads and non-uniform heating of
the disk along the radius. The tension effect on the bend is not taken
into account, temperature variations along the radius are assumed to be
linear. The differential equation of the bend is written down for plates
of constant thickness and is solved separately for the outer loads and for
the non-uniform heating of the disks along the radius. The disk profile
is broken up into the necessary number of sections of constant thickness,
for each of which the magnitude of bending moments and deformation are
determined.

G. I. N.

Card 1/1

SOV/147-59-2-20/20

AUTHOR: Strunkin, V.A.

TITLE: Criticism of the Article by A.M.Soyfer and V.N.Buzitskiy "On the Normal Stresses Arising in the Torsional Oscillations of a Blade" (Kritika i bibliografiya. Po povodu stat'i A.M.Soyfera i V.N.Buzitskogo "O normal'nykh napryazheniyakh, voznikayushchikh pri krutil'nykh kolebaniyakh lopatki")

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1959, Nr 2, pp 159-163 (USSR)

ABSTRACT: The problem of torsional oscillations of blades in axial compressors and turbines is not as expertly explained as the problem of transverse (bending) oscillations, the reason being that the former are evoked by small forces and result in only small stresses. The authors of the criticised article arrive at a different conclusion, viz: that "normal stresses arising in torsional oscillations are comparable with and, in certain cases, even substantially larger than the normal stresses produced in bending". This conclusion would

Card 1/4

Criticism of the Article by A.M.Soyfer and V.N.Buzitskiy
"On the Normal Stresses Arising in the Torsional Oscillations of
a Blade"

be a very important one if it were true. However,
the low level of the experimental technique and the
presence of errors in the article do not allow
acceptance of these findings of the authors. After
questioning the work, reasoning and theoretical basis
of the above conclusions (there are in all some
13 queries) the present author advances some original
explanations of the work carried out by the previous
authors (which was left unanswered in their article).
This is done on an example of a blade (fixed at one
end) of a constant cross-section along its whole
length and being acted upon by a uniformly distributed
twisting moment. By Ref 3, the differential equation
of torsion is given on p 160, EI_ω being flexural-
torsional rigidity and GI_T - being free torsion
rigidity. Its solution, as well as the normal stress
σ_z, are then quoted and this stress is then presented
Card 2/4   in the form of graphs (Fig 1) for various values of the

Criticism of the Article by A.M.Soyfer and V.N.Buzitskiy
"On the Normal Stresses Arising in the Torsional Oscillations of
a Blade"

parameter $k = \sqrt{\dfrac{GI_T \ell^2}{EI_\omega}}$ which characterises the strength

of the blade; (the graph gives the relative values of
the stress, i.e. referred to the stress at the root).
Next, the corresponding formulae for θ and θ'' for the
case of the first mode of torsional oscillations is
quoted from Ref 4 and utilizing the latter the normal
stresses σ_{zz} are obtained (Fig 2) for various values
of k. From the analysis of these curves it is seen
that even in the case of a uniform blade maxima of
stresses may be expected and what is more there are
sections(other than the free end) where the normal
stress vanishes. The actual position of that section
depends upon the parameter k. To explain this
phenomenon, Fig 3 is used representing $\theta = f(x)$.
The dotted curves apply to the limiting cases
$EI_\omega = 0$ and $GI_T = 0$ (i.e. $k = \infty$ and $k = 0$).

Card 3/4   For any finite value of k there will be a point of

SOV/147-59-2-20/20

Criticism of the Article by A.M.Soyfer and V.N.Buzitskiy
"On the Normal Stresses Arising in the Torsional Oscillations of
a Blade"

inflection M, as shown on the full line graph for
$k = 5$; this point corresponds to $\theta'' = 0$, i.e. $\sigma_z = 0$.
Though in blades with variable cross-sections the
stresses will differ from the above distribution for
a constant cross-section blade, the character of the
stresses, however, may be expected to be similar.
There are 3 figures and 4 Soviet references.

ASSOCIATION: Kazanskiy aviatsionnyy institut, Kafedra
aviatsionnykh turbomashin (Kazan' Institute of
Aeronautics, Chair of Aircraft Turbines)

SUBMITTED: December 2, 1958

Card 4/4

STRUNKIN, V.A.

Design of a high-pressure centrifugal compressor. Izv. vys. ucheb.
zav.; av. tekh. 2 no.1:105-110 '59.   (MIRA 12:3)

1.Kazanskiy aviatsionnyy institut, Kafedra aviatsionnykh
lopatochnykh mashin.
(Compressors)

ZHIRITSKIY, Georgiy Sergeyevich, prof.; LOKAY, Viktor Iosifovich;
    MAKSUTOVA, Makhfuzya Karimovna; STRUNKIN, Valentin
    Aleksandrovich; GUROV, A.F., doktor tekhn. nauk, prof.,
    retsenzent; KHOLSHCHEVNIKOV, K.V., doktor tekhn. nauk,
    prof., retsenzent; KULAGIN, I.I., doktor tekhn.nauk, prof.,
    retsenzent; LEPESHINSKIY, I.A., inzh., red.; BOGOMOLOVA,
    M.F., red.izd-va; NOVIK, A.Ya., tekhn. red.

    [Gas turbines of aircraft engines] Gazovye turbiny aviatsion-
    nykh dvigatelei. Moskva, Oborongiz, 1963. 604 p.
                                                (MIRA 16:9)
            (Gas turbines)   (Airplanes—Engines)

AM4008915

processes in gas turbines (different modifications), thermodynamic and gas dynamic calculations for nominal and variable operating conditions, cooling systems used for the hot parts of the turbine, turbine design and construction, and strength calculations. The book is based on a 1950 text "Aviation Gas Turbines" by Professor G. S. Zhiritskiy, on work by Soviet and other scientists, and on findings of the Turbine-Machinery staff of the Kazan Aviation Institute, who rendered great help in planning the book. The authors are also grateful to Professors A. F. Gurov, I. I. Kulagin, and K. V. Kholshchevnikov for many useful hints during the review of the book.

TABLE OF CONTENTS [abridged]:

Card   2/5

ACCESSION NR: AR4015642   S/0081/63/000/022/0361/0361

SOURCE: RZh. Khimiya, Abs. 22K24

AUTHOR: Tseytlin, Kh. L.; Strunkin, V. A.; Fayngol'ts, L. L.; Sorokin, Yu. I.;
Babitskaya, S. M.; Zal'tsman, T. D.

TITLE: Chemical stability of titanium in some corrosive media

CITED SOURCE: Vestn. tekhn. i ekon. inform. N.-i. in-t tekhn.-ekon. issled. Gos.
kom-ta po khimii pri Gosplane SSSR, no. 3, 1963, 30-32

TOPIC TAGS: titanium, titanium chemical stability, corrosion, corrosion resistance,
titanium corrosion, halogen, halogen corrosion, chlorination, bromination

TRANSLATION: Experimental data are given on the rate of Ti corrosion in the pre-
sence of free halogens and in the halo acids and sulfuric acid containing free
halogen. Areas of application of Ti in the chemical industry are pointed out. Ti
is recommended as a construction material for equipment designed for chlorination
in an HCl medium at concentrations up to 20% and temperatures up to 60C, in the
presence of less than 3 g free Cl_2 per liter HCl. Ti tips are used on

Card ,1/2

ACCESSION NR: AR4015642

thermocouple casings for the chlorination of organic compounds in 18% HCl at 60-65C, and in the dehydration of maleic acid. Ti-equipment is recommended for the bromination of organic compounds in a water medium at 0-3C (pH~1) and a rapid course of reaction. Free halogens, Na nitrite, and some other additives decrease Ti corrosion in the hydrogen halides and sulfuric acid. The protective effect of halogens decreases sharply with a temperature increase to 60-90C, and with increased concentration and prolonged action of the corrosive medium. 29 references. N. Lukashina

DATE ACQ: 07Jan64   SUB CODE: CH, ML   ENCL: 00

Card 2/2

L 16592-65 , EWT(m)/EWA(d)/EWP(t)/EWP(b)   IJP(c)/ASD(f)-2/ASD(m)-3   JD/WB/MLK

S/0000/64/000/000/0144/0149

ACCESSION NR: AT4048064

AUTHOR: Babitskaya, S.M., Strunkin, V.A., Zal'tsman, T.D., Sorokin, Yu. I.

TITLE: Chemical stability of titanium in some aggressive media and the areas for its application in the chemical industry

SOURCE: Soveshchaniye po metallurgii, metallovedeniyu i primeneniyu titana i yego splavov. 5th, Moscow, 1963. Metallovedeniye titana (Metallography of titanium); trudy* soveshchaniya. Moscow, Izd-vo Nauka, 1964, 144-149

TOPIC TAGS: titanium, titanium chemical stability, titanium corrosion, organic acid, chemical industry

ABSTRACT: Tests over a wide range of temperatures and H_2SO_4 concentrations showed that chlorine consistently retards the corrosion of titanium, which increases rapidly with temperature (see Fig. 1 of the Enclosure). In the presence of chlorine, corrosion also increases rapidly with H_2SO_4 concentration, but in its absence the corrosion rate passes through maxima at about 40 and 80% H_2SO_4. The authors then went on to study corrosion by organic acids, which are weaker than the mineral acids, since such organic acids as acetic acid, formic acid, oxalic acid, maleic acid, phenoxyacetic acid and

Card 1/3

L 16592-65   0
ACCESSION NR: AT4048064

several others strongly corrode cast iron, steel and other metals. Tests with titanium showed strong corrosion in oxalic acid (100 mm/year, or the same as in 20% hydrochloric acid). Low stability of titanium was also noted in formic acid, tartic acid and citric acid, as well as in mixtures of glacial acetic acid with acetic anhydride. Strong corrosion of titanium was observed in hot solutions of oxalic acid and tartaric acid, while the highly aggressive properties of citric acid are explained by the solubility of the compounds in water. These results indicate new possibilities for the use of titanium equipment where hydrochloric, hydrobromic, hydroiodic and sulfuric acids containing free halogens participate in chemical reactions. Titanium tips are employed on thermocouples working in chlorination processes. Laboratory tests have shown the harmful action of alternating current on titanium in acid solutions, but a titanium bubbler has been working successfully in the production of chlorine. It is also advisable to use titanium for the treatment of organic substances with bromine in water. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: none

SUBMITTED: 15Jul64   ENCL: 01   SUB CODE: IC, GC

NO REF SOV: 004   OTHER: 006

Card 2/3

L 16592-65
ACCESSION NR: AT4048064

Corrosion rates mm/year

ENCLOSURE: 01

H_2SO_4 concentration, %
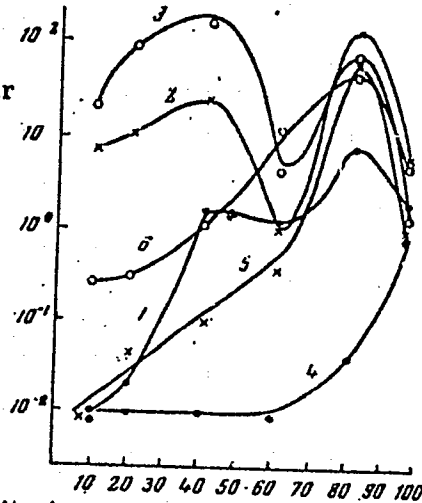
Fig. 1. Effect of chlorine on titanium corrosion by sulfuric acid: 1 - at 20C without chlorine; 2 - at 60C without chlorine; 3 - at 90C without chlorine; 4 - at 20C with chlorine; 5 - at 60C with chlorine; 6 - at 90C with chlorine.

Card 3/3

L 15660-65   EWT(m)/EWA(d)/EWP(t)/EWP(b)   ASD-3/AFFTC/ESD-3/IJP(c)/Pa-4/ASD(f)-2/
ASD(m)-3   JD/WB/MLK
ACCESSION NR: AT4048065   S/0000/64/000/000/0150/0159

AUTHOR: Tseytlin, Kh. L.; Fayngol'd, L. L.; Strunkin, V. A.   B+1

TITLE: Chemical stability of titanium in halo acids and halogens

SOURCE: Soveshchaniye po metallurgii, metallovedeniyu i primeneniyu titana i yego
splavov. 5th, Moscow, 1963. Metallovedeniye titana (Metallography of titanium);
trudy* soveshchaniya. Moscow, Izd-vo Nauka, 1964, 150-159

TOPIC TAGS: titanium, titanium corrosion, titanium chemical stability, halogen,
titanium halide, nitro compound

ABSTRACT: Halogens generally increase the corrosion of iron, copper, nickel, lead
and other metals in hydrochloric acid. Only tantalum, a very costly and rare
metal, has high stability, although titanium has sufficient stability in hydro-
chloric acid up to a concentration of 5%. The present paper considers the effect
of halogens on the chemical stability of titanium in halo acids. Titanium corrodes
insignificantly in halo acids at room temperature, but at 90C corrosion reaches
tremendous proportions (about 400 mm/year in hydrochloric acid and 72 mm/year in
hydrobromic acid). In all cases, addition of halogens to hydrochloric and hydro-
bromic acids was found to lower the corrosion rate of titanium, although increas-
ing the temperature lowered the protective capacity of the halogens. Chlorine,
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L 15660-65

ACCESSION NR: AT4048065

bromine and iodine decreased the corrosion of titanium to the same degree. The view that titanium reacts with chlorine, bromine and iodine only at high temperature is incorrect, since several recent publications have reported that titanium reacts rapidly with chlorine at room temperature and even at -18C. Tests by the authors showed that VTI titanium sheets ignite in chlorine gas at room temperature after 24 hours. Strong corrosion was observed with iodine at 60C, while titanium did not corrode after 500 hours at room temperature. Other tests indicated that titanium reacts rapidly with both dry liquid bromine and moist bromine, although it has high stability in aqueous solutions of bromine up to 90C. Ignition of titanium occurs when the reaction is highly exothermic and proceeds at a high rate, when the final products of the reaction are gases and when the reaction is autocatalytic. The formation of $TiCl_4$, $TiBr_4$ and TiI_4 liberates large quantities of heat. Some publications have noted that aromatic nitro compounds increase the corrosion of iron, copper, lead, aluminum and their alloys by electrolytes. This is explained by the depolarization of nitro compounds during the process. No data are available in this respect about titanium. Tests by the authors showed that almost all nitro compounds sharply lower the corrosion rate of titanium by hydrochloric acid up to 60C, but at 80C this process changes and the protective action is observed only in the presence of o-nitrotoluene, o-nitrophenol, m-dinitrobenzene and 1,2,4-di-nitrochlorobenzene. The concentration of nitro compounds in 6 N HCl has a marked effect on titanium corrosion at 60C. Orig. art. has: 6

Card 2/3

L 15660-65
ACCESSION NR: AT4048065

figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 15Jul64   ENCL: 00   SUB CODE: MM

NO REF SOV: 024   OTHER: 012

Card 3/3

SKULACHEVSKIY, Gleb Semenovich; TUMANSKIY, S K., doktor tekhn.
nauk, retsenzent; ZHIRITSKIY, G.S., doktor tekhn. nauk
prof., retsenzent; STRUNKIN, V.A., kand. tekhn. nauk
dots., retsenzent; SHTODA, A.V., prof., nauchn. red.;
POPOV, A.V., red.

[Aircraft gas turbine engines; design and construction of
parts] Aviatsionnye gazoturbinnye dvigateli; konstruktsiia
i raschet detalei. Izd.2., perer. i dop. Moskva. Mashino-
stroenie, 1965. 451 p.   (MIRA 19:1)

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

STRUNKIN, VA.

Effect of water-vapor concentration on the corrosion of metals by chlorine. Kh. L. Tseitlin and V. A. Strunkin. *Zhur. Priklad. Khim.* 29, 1664-73(1956).—*C. A. 50, 12790c.*—The max. temp. at which the following metals were satisfactorily resistant to Cl contg. 1.5 and 39% H_2O vapor were detd.: Al 200, 325; Armco Fe 310, 375; C-steel 285, 375; cast iron 285, 375; stainless steel (1Cr-18Ni-9Ti) 450, 475; Cr 17, 450, 475; Ni 475, 475; Pb 225, 225; Ta 375, 400°. The min. temps. of satisfactory resistance were 130° for Al, Ni, and stainless steel; 150° for Pb, Fe, C steel, and cast iron; and 110° for Ta. Cu corroded appreciably above 130°. Ni was the most stable metal up to 475° to Cl contg. some moisture. Stainless steel was as resistant as Ni but it failed locally. The duration of the test is an important factor in the evaluation of corrosion resistance: Ta begins to react violently only after 35 min. at 450°, whereas at 500° it reacts instantly; cast iron in dry Cl at 240° reacts violently only after 3.5 hrs. and instantly at 280°.
I. Bencowitz

STRUNKIN V. A.

Distr: 4E4j

/ 2907

CORROSION OF METALS BY HYDROGEN SULFIDE AT
HIGH TEMPERATURES. Kh. L. Tseitlin, L. Y. Marslod-
hova, and V. A. Strunkin (Inst. of Organic Semi-Products
and Dyes).—Zhur. Priklad. Khim. 30, 1553-8(1957) Oct.
(In Russian)

Dry hydrogen sulfide induced considerable corrosion in
carbon steel at 250°C temperature with a sharp increase at
500°C. The corrosion of stainless steel began at 360°C, and
Al_2O_3Fe and Al-Cr-Fe alloys at 500°C. The corrosion of
Cu began at 170°C. In some cases water vapor slowed
down the corrosive effects of hydrogen sulfide at high tem-
peratures. A strong dilution of hydrogen sulfide with nitro-
gen weakens its corrosive effects on stainless steel and
copper; however, this does not hold at a temperature of
500°C. At high temperature steels and steel alloys corrode
faster in dry chloride than in dry hydrogen sulfide, while in
presence of water vapors the picture is reversed. (R.V.J.)

SOV/32-24-7-54/65

AUTHORS: Tseytlin, Kh. L., Sel'tser, A. S., Zemlyanitskaya, N. N., Strunkin, V. A., Merzloukhova, L. V.

TITLE: Corrosion Determinations in Ampoules (Korrozionnyye opredeleniya v ampulakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7, pp. 898 - 899 (USSR)

ABSTRACT: Of late glass ampoules are used for corrosion investigations of steel; the former make it possible to carry out several experiments at the same time, which fact is especially favorable in the case of small sample quantities, and in the determinations of rare metals, as well as of expensive and dangerous reagents. In the laboratory mentioned below an apparatus was constructed on this basis, which serves for the determinations of chemically resistive, rare metals in hydrochloric acid. The apparatus consists of a heatable steel drum with a steeltube grid into which eight steel shells for the glass ampoules are put. 40 ml liquid and two samples each were put into each ampoule; then they were put in a sealed state into the apparatus which was rotated by a reducing gear. After the experiment the ampoules are broken up. Corrosion experiments with tantalum in hydrochloric acid

Card 1/2

Corrosion Determinations in Ampoules

SOV/32-24-7-54/65

or in hydrochloric acid saturated with chlorine, or in HCl with an addition of hydrogen peroxide were carried out at 100 - 110°. On this occasion a corrosion rate of less than 0,005 g/m^2.hour was found. Thick-walled ampoules were also used for the determinations of nickel, copper, aluminium and other metals in molten AlCl$_3$ at 200°. The experiments with this apparatus must be carried out taking into account all precautionary methods known in the technique. There are 2 figures.

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley im.K.Ye. Voroshilova(Institute of Organic Semiproducts and Dyes imeni K.Ye.Voroshilov)

Card 2/2

TSEYTLIN, Kh.L.; STRUNKIN, V.A.

Effect of the dilution of chlorine with nitrogen on corrosion of metals at high temperatures. Zhur.prikl.khim. 31 no.12:1843-1849 D '58.   (MIRA 12:2)

1. Institut organichskikh poluproduktov i krasiteley imeni K.Ye. Voroshilova.
          (Chlorine) (Nitrogen) (Corrosion and anticorrosives)

S/...60/000/0 0 0 /015
A 6 /A

AUTHORS: Konyushenko, A.T., Golovkin, R.V., Tseytlin, Kh.A., Strunkin, V.A.

TITLE: Resistance of Welded Titanium Pipes in Hydrochloric Acid Saturated
         with Chlorine

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 10, pp.61-

TEXT: The fabrication of titanium tubes by pressing is connected with high
metal waste and tool consumption. In view of this fact and of the growing
demand of the chemical industry in titanium pipes, the Moskovskiy trubnyy
zavod (Moscow Tube Plant) has carried out tests in 1958 to fabricate these
tubes by welding, and a technology has been developed for the welding of
tubes of 12, 16, 2 , 38 and 76 mm in diameter and 1 2 mm wall from BT1 (VT1)
titanium. High-grade argon was used for shielding in the way described in a
work that will soon be published (Ref.1) and which concerns the welding of
tantalum. It is known from another work (Ref.2) that titanium is resistant
to HCl solutions being continually saturated with chlorine, but no informa-
tion could b   d in literature (Ref.3 6) on the behaviour of titanium
Card 1/5

S/...5/60/000/010/011/015
A 6./A...

Resistance of Welded Titanium Pipes in Hydrochloric A id Saturated with
Chlorine

welds. VT1 titanium tubes of 25 mm diameter and 1.5 mm wall were welded with
160 amp, 12 volt current and 0.6 m/min welding speed, using 4 mm diameter
electrodes and a 12 mm diameter nozzle, while the argon consumption was 9 li-
ter/min on the arc and 6 liter/min in the blast. The test specimens were
rings cut from the tubes and placed into glass test tubes on glass hooks.
Chlorine was blown continually through the test solution (water solution).
A test lasted 200 hours. The resistance of the metal was measured by the
loss of weight, mechanical properties and microstructure. A corrosion rate
of only 0.01 mm per year was found in a 5% HCl solution at 90°C, and 0.1 mm
per year in a 20% solution at 60°C. The resistance in fumes was several times
higher. The corrosion rate remained practically constant. The microstruc-
ture of all specimens was: cast metal of coarse-acicular shape in the weld
zone, and fine spherical grain shape with twins in base metal (Fig. 2,3). The
test results prove the applicability of welded VT1 titanium equipment or
tubes in HCl being continually saturated with chlorine; a 5% HCl concentra-
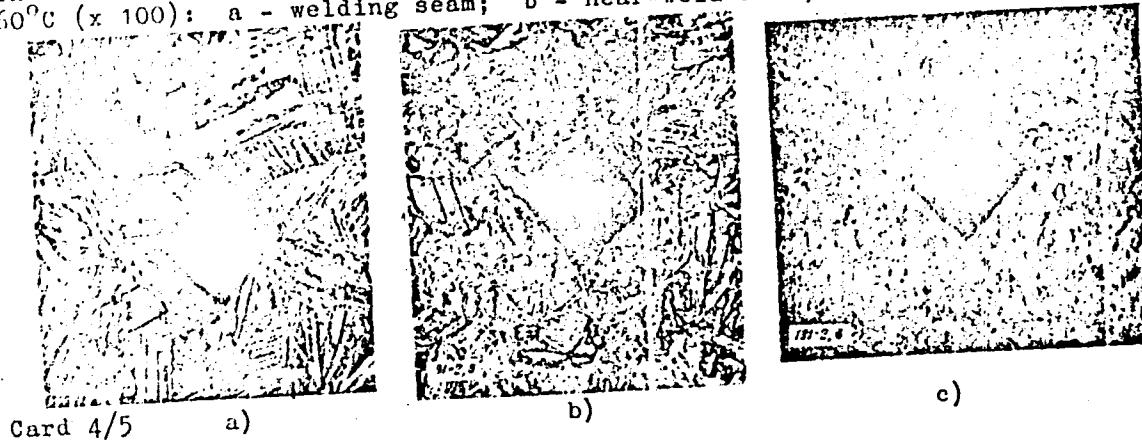tion is permissible for work in temperature not higher than 90°C, and a 20%
Card 2/5

S/125/60/000/010/011/015
A161/A133

Resistance of Welded Titanium Pipes in Hydrochloric Acid Saturated with
Chlorine

concentration at temperature of not higher than 60°C. The free chlorine con-
tent must be about 0.2 g in 100 cm^3. There are 3 figures and 6 references:
4 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Moskovskiy trubnyy zavod (Moscow Tube Plant) (A.T. Konyushenko
              and R.V. Golovkin); NIOPiK im.Voroshilova (NIOPandK im. Voro-
              shilov) (Kh.A. Tseytlin, V.A. Strunkin)

SUBMITTED: March 14, 1960

Card 3/5

S/125/60/000/010/011/015
A161/A133

Resistance of Welded Titanium Pipes in Hydrochloric Acid Saturated with
Chlorine

Figure 2:
The microstructure of a specimen tested for 200 hours in 20% HCl acid at
60°C (x 100): a - welding seam; b - near-weld zone; c - base metal

Card 4/5   a)   b)   c)

S/125/60/000/010/011/015
A161/A133

Resistance of Welded Titanium Pipes in Hydrochloric Acid Saturated with Chlorine

Figure 3:

The microstructure of a
specimen tested for
200 hours in the fumes
of a 20% hydrochloric
acid containing chlorine,
at 60°C (x 100)
a - welding seam
b - base metal
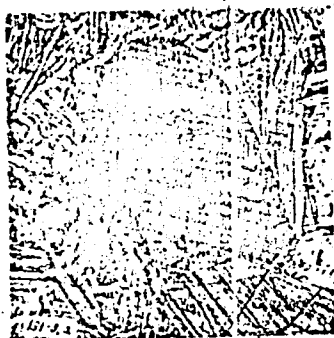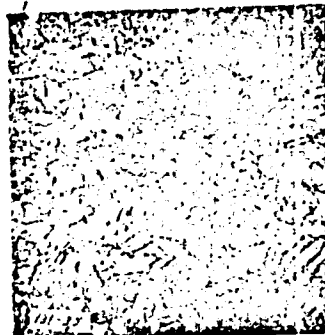
a.)   b)

Card 5/5

18.8000   77039
                                                SOV/80-33-2-14/52

AUTHORS: Zeytlin, Kh. L., Strankin, V. A., Revazov, Ye. K.

TITLE: Effect of Cathodic Polarization Upon Stability
                of Tantalum in Hydrochloric Acid

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 2,
                pp 345-348 (USSR)

ABSTRACT: The authors studied the effect of temperature and
                current density upon degree of disintegration of
                tantalum metal which takes place when negative
                potential is applied to the latter. Negative
                potential was created in tantalum by:(1) - connecting
                tantalum plates (thickness 1 mm and area cm^2) with the
                negative pole of a current source, as shown in Fig.
                1:

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Effect of Cathodic Polarization Upon
Stability of Tantalum in Hydrochloric Acid

SOV/80-33-2-14/52
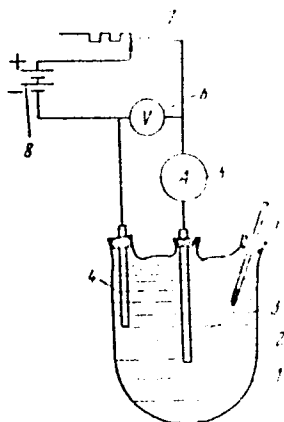
Fig. 1.   Diagram for application of negative potential
to tantalum: (1) 0.75 l flask; (2) 20% HCl; (3)
graphite anode; (4) tantalum sample; (5) milliampere-
meter; (6) voltmeter; (7) variable resistance; (8)
source of direct current; (9) thermometer. Anode-
cathode distance = 2.5 cm.

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Effect of Cathodic Polarization Upon
Stability of Tantalum in Hydrochloric Acid

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SOV/80-33-2-14/52

and, (2) - by contacting (through an elastic rubber
ring or a metal conductor) the tantalum plates with
a steel bar (diameter 15 mm, length 150 mm), both
immersed in 20% HCl. Duration of experiments (per-
formed at 20 and $60°$) was determined by appearance
of fissures on the sample. Fig. 2 shows the results
of this study.

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Effect of Cathodic Polarization Upon
Stability of Tantalum in Hydrochloric Acid

77639
SOV/80-33-2-14/52
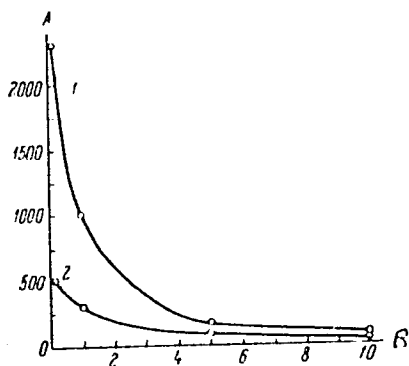
Fig. 2.   Tendency of tantalum to crack as a function
of current density at temperature 20° (1) and 60°
(2):   A -time to the moment of cracking (in hours);
B - cathode current density (in amp/m^2).

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Effect of Cathodic Polarization Upon
Stability of Tantalum In Hydrochloric Acid

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SOV/80-33-2-14/52

Behavior of tantalum in electrolysis of HCl is similar
to benavior of steel during cathodic polarization
/Karpenko, G. V., Kripyakevich, R. I., Doklady Akad.
Nauk SSSR, 120, 4, 827 (1958)_7. Rise of temperature
speeds up the cracking process by speeding up
diffusion of atomic hydrogen and its combination into
molecules in the body of the metal. In the experi-
ment designed to investigate the action of molecular
hydrogen, the tantalum plate, placed into a filter
funnel with HCl, was continuously washed with molecular
hydrogen (obtained in electrolysis of 30% KOH) which
entered the funnel through the filter. No changes
were noted in appearance of tantalum. There are
3 figures; 1 table; and 9 references, 7 Soviet, 1
German, 1 U.K. The U.K. reference is: Metal. Ind.,
66, 25-26, 406 (1945).

ASSOCIATION: K. Ye. Voroshilov Institute of Organic Intermediates
and Dyes (Institut organicheskikh poluproduktov i
krasiteley imeni K. Ye. Voroshilova)

SUBMITTED: February 2, 1959   Card 5/5

S/080/60/033/04/17/045

AUTHORS: Tseytlin, Kh.L., Revazov, Ye.K., Strunkin, V.A.

TITLE: The Effect of Cathode Polarization of Tantalum on Its Electroconductivity

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 850 - 854

TEXT: Cathode polarization of tantalum in hydrochloric acid is accompanied by hydrogenation of the metal and leads to its cracking. In the experiments tantalum plates (with about 1% of niobium), 1 mm thick and 90 mm long and with a surface of 30 - 35 cm^2, were used as cathode. A graphite rod served as anode. The measurements were carried out in an oil bath and lasted 5 - 10 minutes. Under the conditions studied the electric resistance of tantalum in the case of cathode polarization increases in direct proportion to the quantity of hydrogen absorbed. With an increase in the duration of the cathode polarization of tantalum and the current density from 0.1 to 10 A/m^2, the amount of hydrogen absorbed by tantalum increases and consequently also its electro-resistance. With an increase in the thickness of tantalum from 1 to 5 mm the time needed for the saturation with hydrogen increases considerably, and so does correspondingly the electroresistance. Cracking of tantalum starts during cathode polarization, if its

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S/080/60/033/04/17/045

The Effect of Cathode Polarization of Tantalum on Its Electroconductivity

specific electric resistance increases by 25 - 40% at $20^\circ C$ and by 90 - 110% at $60^\circ C$ relative to the initial value.

There are: 2 diagrams, 3 graphs and 8 references, 6 of which are Soviet and 2 German.

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley imeni K.Ye. Voroshilova (Institute of Organic Semi-Finished Products and Dyestuffs imeni K.Ye. Voroshilov)

SUBMITTED: April 22, 1959

Card 2/2

18 8300

26564

S/080/60/033/012/023/024
D209/D305

AUTHORS: Tseytlin, Kh.L., and Strunkin, V.A.

TITLE: Influence of chlorine on the corrosion of titanium by hydrochloric acid

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 12, 1960, 2796 - 2799

TEXT: The corrosion of titanium by various acids and oxidizers has been studied by I.I. Kornilov (Ref. 1: Khim. nauka i prom. 3,6, 803 1958), V.N. Eremenko (Ref. 5: Titan i yego splavy (Titanium and its Alloys), Izd. AN UkrSSR, Kiyev, 1955) and others, but relatively little is known of the effect of chlorine on the stability of Ti in HCl apart from some data recently published by P.J. Gegner et al. The authors accordingly conducted a series of tests in order to obtain further information on this problem, their specific objectives being the determination of the influence of a fixed amount of free chlorine and the effects caused by varying its concentration in the HCl solution. The experimental procedure involves the

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Influence of chlorine on the ...

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S/080/60/033/012/023/024
D209/D305

insertion of a Ti specimen (30 x 16 x 1mm) in a glass holder; the placing of the holder in a test tube provided with a reflux condenser; the addition of 150 ml of conc. HCl; and the supply of Cl_2 gas to the solution from a cylinder. The results confirm previous data on the high degree of Ti corrosion in HCl, especially at elevated temperatures and acid concentrations; however, free chlorine markedly retards this process. Thus, no Ti is dissolved at room temperature whatever the concentration of HCl provided the acid is continuously saturated with free chlorine (10 ml/min). Under these conditions Ti is also stable at the following temperatures and concentrations of HCl: 90° -- 5 %; 80° -- 10 %; 70° -- 15 %; 60° -- 20 %. As regards the influence of the concentration of free chlorine on the corrosion of Ti in 20 % acid, it is shown that 0.001 g Cl_2/100 ml HCl is sufficient to bring about a 100-fold decrease in the rate of metal solution. This effect is annulled when the exposure time is increased to 25 - 50 hours. But Ti remains in a passive state for periods of 25 and 50 hours if the initial concentration of the solution is increased to 0.037 and 0.084 g Cl_2/100 ml

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Influence of chlorine on the ...

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D209/D305

HCl respectively. The authors do not know of any other metal apart from Ta which resists attack by chlorinated HCl. This phenomenon is of special interest since Kh.L. Tseytlin (Ref. 7: Zh. prikl. khimii 33, 1, 160, 1960) has shown that chlorine often accelerates the corrosion of many metals and their alloys. The authors infer from the data of M.V. Mal'tsev et al (Ref. 10: Giredmet, sb. nauch. tr. 1, 481, Metallurgizdat, 1959) that the resistance of Ti to corrosion by chlorinated acid is due to the formation of an inert film of oxide. This passive layer evidently has a tendency towards splintering and exfoliation which is best prevented by continuously saturating the HCl with free chlorine, and it is concluded that such a technique helps to reduce the solubility of the film in a solution of HCl possessing a concentration of $\leqslant 20$ % and a temperature of $< 60°$. There are 2 figures and 11 references: 6 Soviet-bloc and 5 non-Soviet-bloc. The references to the English-language publications read as follows: L.W. Gleekman, Corrosion, 14, 9, 15, 1958; P.J. Gegner et al, Corrosion, 15, 7, 19, 1959.

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Influence of chlorine on the ...

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S/080/60/033/012/023/024
D209/D305

ASSOCIATION: Institut organicheskikh poluproduktov i krasitel'yey
im. K.Ye. Voroshilova (Institute of Organic Semipro-
ducts and Dyestuffs im. K.Ye. Voroshilov)

SUBMITTED: March 12, 1960

Card 4/4

AUTHOR: Strunkin, V.A.

TITLE: Calculating gas turbine disks allowing for plastic deformations and metal creep

PERIODICAL: Referativnyy zhurnal. Mashinostroyeniye, no. 14, 1961, 28, abstract 14I199 ("Tr. Kazansk. aviats. in-ta", 1960, no. 55, 91 - 102)

TEXT: The author analyzes the possibility of utilizing the method of elastic calculation of disks of arbitrary shape, widely used in plant practice, for the calculation of disks allowing for plastic deformations and creep. The method described in G.A. Kuzmin's article (see abstract 14I108) is taken as the initial one, in which the disk profile is replaced by sections of constant thickness. It is suggested for elastic calculation to assume the magnitude of the modulus of elasticity (E) to be depending on the temperature, while the magnitude of E_1 - "modulus of plasticity" to be depending also on the magnitude of deformation at the analyzed point. The calculation is carried out by the method of successive approximations. The initial stress is assumed to be that which is obtained as a result of calculating the disk as an elastic one. The modulus of plasticity is

Card 1/2

Calculating gas turbine disks ...   S/123/61/000/014/042/045
                                           A004/A101

determined in the calculation process. The process of successive approximations
for the section being investigated can be described by a certain curve. The
author suggests a method of plotting the network of values of the "modulus of
plasticity" considerably simplifying its determination. He presents a calcula-
tion example in which the method is analyzed making it possible to reduce a num-
ber of approximations.

                                              I. Kuznetsov

[Abstracter's note: Complete translation]

Card 2/2

STRUNKINA, O.V.

Work practice of the medical and sanitary squad in lowering morbidity among workers. Sov.zdrav. 15 no.2:23-26 Mr-Ap '56.   (MLRA 9:7)

1. Zaveduyushchaya ushnym otdeleniyem mediko-sanitarnoy chasti.
   (INDUSTRIAL HYGIENE
        lowering morbidity among workers, activities of medico-sanitary squad)

STRUHKCV, S.P.

Topological Hamilton groups. Usp. mat. nauk 20 no.6:157-161
N-D '65.   (MIRA 18:12)

1. Submitted April,17,1964

STRUNKOVA, Z.I.

Biology of the mite Bryobia redicorzevi Reck. (Acariformes, Tetranychidae) in Tajikistan. Dokl. AN Tadzh. SSR no.21:41-44 '57. (MIRA 11:7)

1.Institut zoologii i parazitologii im. akademika Ye. N. Pavlovskogo AN Tadzhikskoy SSR.
(Tajikistan--Mites)

STRUNKOVA, Z.I.

Parthenogenesis of the ordinary spider mite Tetranychus urticae. Dokl.AN Tadzh.SSR 2 no.1:53-56 '59.

(MIRA 13:4)

1. Institut zoologii i parazitologii AN Tadzhikskoy SSR. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR M.N. Narzikulovym.

(Red spider) (Parthenogenesis)

STRUNNIKOV, E.A.

"Short course in meteorology and oceanography for sea captains"
by P.G. Vovchenko, A.E. Zubkov. Reviewed by E.A. Strunnikov.
Meteor.i gidrol. no.12:49-50 D '62.   (MIRA 15:12)
        (Meteorology, Maritime) (Oceanography)
        (Vovchenko, P.G.) (Zubkov, A.E.)

STRUNNIKOV, G.I.

      Case of lipoma of the cecum. Zdrav. Kazakh. 22 no.2:73-74 '62.
                                         (MIRA 15:4)

1. Iz Ust'-Kamenogorskogo oblastnogo onkologicheskogo dispansera.
              (CECUM--TUMORS)

5629. MEASURES TO REDUCE EXCESSIVE CYLINDER WEAR. Strunnikov, M. F. (Avto. Prom., June, 1947, 4-8). Road tests have been carried out, mostly over inferior roads, on Russian GAZ lorries and cars using "second grade" petrol and liquified gas, respectively, and also on American vehicles of similar type. Cylinder wear on the Russian vehicles, although high, was in general considerably lower than that on the American vehicle under similar oper ting con itions. The chief cause of the high wear is stated to be corrosion, closely connected with fuel quality. Cylinder life with second grade petrol was 12-15,000 k.m. and with 3-70 petrol (Apparently of higher quality) or liquefied gas 17-23,000 k.m., respectively. Wear tended to be high in the plane of the crankshaft axis, with bias away from the position of the intake valve. Apart from corrosion, the second factor affecting the wear pattern was piston cant, caused by non-symmetrical arrangement of connecting rods and uneven crankpin wear, resulting in the sharp edges of piston rings cutting into the cylinder wall. With 2 in. long austenitic cast iron sleeves at the top of the cylinder bore wear was reduced from 250-300 microns per 15-20,000 k.m. to 70-90 microns. A cylinder life of at least 40,000 k.m. before reboring is expected. As a result of these tests, all

GAZ-51 engines are being equipped with short austenitic sleeves at the top of the cylinder bores and with a chromium plated top piston ring.

".I.R.A.

CIA 12T11

USSR/Engines, Gasoline
  Engines, Automobile   Feb 1947

"Depreciation of a Six-cylinder GAZ Engine,"
N. Strunnikov, 3 pp

"Avtomobil'" Vol XXV, No 2

Detailed description with graphs and diagrams of
wear on cylinders and piston rings of an uncased
engine and of imported motor vehicles. Also wear
on GAZ-51 automobile engine now being produced at
Auto Plant imeni Molotov. (2½-ton capacity, six-
cylinder gasoline engine model GAZ-51, 70 hp,
2800 revolutions per minute.)

          12T11

USSR/Engineering
　　Engines, Automobile
　　Oil Lines

Sep 48

"Effect of Nonsymmetrical Connecting Rods and Uneven
Inclinations of Oil Lines on the Wear of the GAZ-51
Engine," N. F. Strunnikov, Gor'kiy Auto Factory imeni
Molotov, 5 pp

"Avto Prom" No 9

Treats subject under the following: (1) big end
journals, (2) connecting rod bushes, (3) main journals,
(4) causes of elliptical and conical wear of big end
journals, (5) canting of connecting rod and piston

17/49T26

USSR/Engineering (Contd)

Sep 48

assembly, and (6) conclusions. Includes two photo-
graphs, 14 diagrams.

17/49T26

STRUNNIKOV, N. F.

STRUNNIKOV, N. [F.]

20966 Strunnikov, N. Regulirovka zatyazhki podshipnikov vedushchey shesterni GAZ-51 i GAZ-63. Automobil', 1949, No. 6, s. 6-7.

SO: LETOPIS ZHURNAL STATEY- Vol. 28, Moskva, 1949

L'VIN, M.; STRUNNIKOV, N., laureat Stalinskoy premii.

Experience in operating the ZIS-5 truck. Avt.transp. 32 no.7:
23-24 Jl '54.
                                                    (MLRA 7:9)

1. Glavnyy inzhener Chelyabinskogo oblavtotresta (for L'vin)
2. Dotsent Chelyabinskogo politekhnicheskogo instituta (for
Strunnikov)
       (Motor trucks)

STRUNNIKOV, N.F., kand. tekhn. nauk.

Determining wear characteristics for journals and bearings of automobile engine crankshafts. Sbor. st. CHPI no.10:31-43 '57.
(Cranks and crankshafts)   (MIRA 11:1)

STRUMNIKOV, Nikolay Fedorovich; SOBOLEV, Leonid Mikhaylovich;
SOLOV'YEV, Yuriy Alekseyevich; BAGRANOVA, N., red.

[Tractors; a concise manual] Traktory; kratkii spravochnik.
Kostroma; Kostromskoe knizhnoe izd-vo, 1963. 434 p.
(MIRA 18:9)

Reworking of other by Bodnhov's method.
B. I. Kasmalov and W. A. Grdoshov (Russian. Prem.,
russ, 11, No. 4, 22-3. The stew is digested for
12 hr. with 2.23-3.6% rNaOH (NaOH 14-18% of
wt. of air-dry stew) in the cold, drained, treated for
3.5-3 hr. at 3-6-8° atm. with superheated steam,
washed, pressed, disintegrated, and bleached for 4 hr.
at 30-30° with CaOCl₂ (2-3% active Cl). Chg. Am.

A S B - S L A   METALLURGICAL LITERATURE CLASSIFICATION