GRUBERSKI, Tadeusz; MALANOWSKI, Stanislaw

The distillation process of quinoline bases in tar oils. Przem chem
40 no.9:521-523 S '61.

1. Zaklad Fizykochemiczny, Instytut Chemii Ogolnej, Warszawa.

GRUBERSKI, Tadeusz

Studies on the dimethylnaphthalene fraction and the isolation of
its main crystallization components. Przem chem 41 no.5:269-271.
My '62.

1. Zaklad Fizykochemiczno, Instytut Chemii Ogolnej, Warszawa.

GRUBERSKI, Tadeusz; JANEK, Wladyslaw

Studies on liquid-solid phase equilibrium of certain components
of wash oil. Przem chem 41 no.6:308-311 Je '62.

1. Zaklad Fizykochemiczny, Instytut Chemii Ogolnej, Warszawa.

GRUBERSKI, T.

On solid-liquid equilibria between coal-tar constituents. I. Binary
systems of acenaphthene with methyl derivatives of naphthalene.
II. Binary systems: naphthalene— acenaphthalene or 2.6-, 2.3- or
2.7- dimethylnaphthalenes. Bul chim PAN 9 no.11:731-740 '61.

1. Institute of Physical Chemistry, Polish Academy of Sciences,
Warsaw and Institute of General Chemistry, Warsaw. Presented by
W. Swietoslawski.

S/081/63/000/002/007/008
B119/B186

AUTHOR: Gruberski, T.

TITLE: Solid-liquid equilibrium studies of some coal tar constituents.
            III. Eutectic systems formed by acenaphthene, naphthalene and
            methyl derivatives of naphthalene. IV. Calculation of the
            composition of binary and methyl derivatives of naphthalene.
            V. Evaluation of melting temperatures of eutectic binary and
            multicomponent mixtures of acenaphthene, with methyl
            derivatives of naphthalene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 65, abstract
            2B416 (Bull. Acad. polon. sci. Sér. sci. chim., v. 10, no. 1,
            1962, 25-28, 29-32, 33-37 [Eng.; summary in Russ.])

TEXT: III. To check Sventoslavskiy's rule which states that the eutectic
points for ideal binary eutectic mixtures of component A with a series of
chemically related substances lie on the melting-point curve for A, the
melting-point diagrams were experimentally studied for binary mixtures of
acenaphthene (I), naphthalene (II), and its methyl derivatives (III). A
Card 1/3

s/081/63/000/002/007/068
B119/B186

Solid-liquid equilibrium ...

comparison between the properties of the eutectic revealed that the rule applies to most of the cases. Systems with 2,3-dimethyl naphthalene are excepted. IV. The possibility was studied of calculating the composition of a eutectic on the basis of the composition of known eutectics from chemically related substances (RZhKhim, 1956, no. 18, 57490) by determining the eutectic parameters for mixtures of I, II, and III from the equation $m_2 = m_1(x_2/x_1)$ where x_1 and x_2 are the molar fraction of the components 1 and 2 of the eutectic. Component 1 was taken as standard for which $m_1 = 1$. Assuming that m is constant for the given related eutectic mixtures, the composition was calculated for the ternary and quaternary eutectics from I, II, and III. V. The value k was calculated for the eutectics of I, II, and III from the published equation $T = (T_i x_i)^k$, where T and T_i are the melting temperatures of the ideal eutectic mixture and of the pure component i. Since k for each component depends only little on the composition, k may be assumed $\approx$ const in first approximation, and the melting temperature of the eutectics can be calculated from its mean value. The results of calculation for binary systems are in satisfactory

Card 2/3

Solid-liquid equilibrium ...   s/os:/63/000/002/007/088
B119/B186

agreement with experimental data. The melting temperatures of three
3-component eutectics and one 4-component eutectic were calculated. For
communication II, see RZhKhim, 1963, 18304. [Abstractor's note: Complete
translation.]

Card 3/3

GRUBERSKI, T.

Binary solid-liquid equilibria of diphenyl with isomeric dimethyl-
naphthalenes, naphthalene and acenaphthene. Biul chim PAN 10 no.10:
561-568 '62.

1. Institute of Physical Chemistry, Polish Academy of Sciences,
Warsaw. Presented by W. Swietoslawski.

P/014/63/042/002/001/003
D204/D307

AUTHOR: Gruberski, Tadeusz

TITLE: Studies of liquid-solid equilibria in systems of diphenyl with isomeric dimethylnaphthalenes, naphthalene and acenaphthene

PERIODICAL: Przemysł Chemiczny, v. 42, no. 2, 1963, 88-92

TEXT: The present work, which is a continuation of an earlier investigation (Przem. Chem., 41, 308 (1962); Bull. Acad. Polon. Sci., Ser. sci. chim., 9, 731, 737 (1961); 10, 25, 29, 33 (1962)), was aimed at a study of the binary systems diphenyl with 2,6-, 2,3-, and 2,7-dimethylnaphthalenes, naphthalene and acenaph- thene to determine (a) the nature of the solubility curves and (b) any departures from ideality. Pure materials were used. Eutectics were found in all cases. Degree of ideality was assessed by testing the results for adherence to the assumptions and the scheme of Świętosławski (Roczniki Chem., 23, 1, 7 (1949); Metody rozdzielania i oczyszczania substancji (Methods for the separation and purifica-

Card 1/2

Studies of liquid-solid ...

P/014/63/042/002/001/003
D204/D307

tion of substances), Warsaw 1950), finding that the latter condi-
tions were obeyed by all the systems studied with the exception of
diphenyl-2,3-dimethylnaphthalene. The latter system is therefore
nonideal. For the remaining 4 systems relations derived for ideal
eutectic systems were used to calculate the eutectic compositions
and melting points of mixtures throughout the whole range of partial
concentrations. There are 6 figures and 10 tables.

ASSOCIATION: Zakład Fizykochemiczny Instytutu Chemii Ogólnej w
                Warszawie (Physicochemical Department of the Insti-
                tute of General Chemistry, Warsaw)

SUBMITTED: July 21, 1962

Card 2/2

GRUBESHOVA, M.

1328. TRANSMISSION OF THE PROPERTY OF PRODUCTION OF ANTIBODIES BY THE NUCLEOPROTEIN FRACTION TO NON-IMMUNIZED RECIPIENTS (Russian text) - Shtertzl Ya. and Grubeshova M. - ZH. MIKROBIOL. 1957, 4 (39-46) Graphs 9

No antibody production has been found in five-day-old rabbits inoculated with S. paratyphi B. However if five-day-old rabbits were treated simultaneously with nuclear or mitochondrial fractions of tissues from immunized animals, agglutinating antibodies were found. The ability to produce antibodies by young animals has also been achieved by desoxyribonucleoprotein isolated from tissues of immunized animals.

Gurevitch - Jerusalem

GRUBIC, Aleksandar

A new Sphaeractinia. Glas Prir muz A no.11:41-46 '59.

(Sphaeractinia)

S/169/62/000/012/069/095
D228/D307

AUTHOR: Grubich, Vilmos

TITLE: Man and the weather

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1962, 67, abstract 12B427 (Az idojaras es az ember, Budapest, Ned. Konyvk., 1961, 202 l., illus. (Rev. by Fredmer-szky, Tibor, Idojaras, 65, no. 6, 1961, 371-372 (Hun.)))

TEXT: Theoretical and practical questions of the hardening of the organism are reviewed from the biological point of view. The first of the five chapters is an introduction to the basic princi-ples of biometeorology and describes the main atmospheric factors (air pressure and temperature, water vapor content, relative humid-ity, atmospheric electricity) and their role as irritants, inducing a definite reaction in the organism when acting together (climate, weather, atmospheric front). Chapter II states the biometeorologi-cal principles of the hardening of the organism and of the main

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Card 2/2

GRUBICH, V.   1949

(A Budapesti Paz.Pet. Tudo. Korelettani Inst. es as Orszegos Balreclogisi Kutato
Ontezet Kozlemenye)

"Effect of the Medicinal Mineral Water No. 1, of Hadjuszoboszlo on Metabolism."

Crvosi Hetilap, 1949 90/19(596-599)
Abst: Exc. Med. 11, Vol. 111, No. 4, p. 500

GRUBICH, W;ZSELYONKA, L.

Blood sedimentation in pulmonary tuberculosis. Wien. med. Wschr.
100 no.29-30:505-509 12 Aug. 1950.   (CLML 20:1)

1. Of the Institute for General Pathology and Bacteriology of
the Peter Pazmany University in Budapest (Head--Laszlo Zselyonka,
M. D.) and of Erzsebet Sanatorium (Director--Oszkar Orszagh,
M. D.).

GRUBICH, V.; VARATH, G.

Sweat secretion, elimination and exercise. Orv. hetil. 94 no.22:604-
607 31 May 1953.   (CLML 25:1)

1. Doctors. 2. Research Laboratory (Head Physician -- Dr. Vilmos
Grubich), National Institute of Physical Training and Sports Hygiene
(Director - Head Physician -- Dr. Sandor Balassa).

GRUPICH, V.

Forsch.-Lab., Inst. fur Korperkult. und Sportgesundh. - Wesen, Budapest.
*Gefassfunktions-Untersuchungen an Sportlern. Examination of vascular function
in sportsmen ACTA PHYSIOL. ACAD. SCIENT. HUNG. (Budapest) 1954, 5/suppl. (63-64)

SO: EXCERPTA MEDICA - Section II, Vol. 7, No. 10

GRUBICH, Vilmos

Modern exercise apparatus with a moving band for rats.
Kiserletes orvostud. 6 no.6:569-570 Nov 54.

1. Orszagos Testneveles-es Sportegeszseegugyi Intezet
Kutatolaboratorium.
        (EXERCISE
            appar. with moving band for rats)
        (APPARATUS AND INSTRUMENTS
            exercise appar. with moving band for rats)

GRUBICH, Vilmos, dr.

Physical culture for patients with pulmonary tuberculosis. Tuberk.
kerdesei 7 no.6:81-84 Dec 54.

1. Az Orszagos Testneveles- es Sportegesssegugyi Intezet
Kutatolaboratoriumanak koslemenye.
      (TUBERCULOSIS, PULMONARY, therapy
            phys. culture methods (Hun))

GRUBICH, Vilmos, dr.; BARATH, Gyorgy, dr.; VARADY, Arisztid, dr.

Functional examination of blood supply of the skin. Orv. hetil.
95 no.33:898-903 Aug 54.

1. Az Orszagos Testneveles- es Sportegeszsegugyi Intezet (igazgato-
foorvos: Kovari Aladar dr.) Kutatolaboratoriumanak (foorvos:
Grubich Vilmos dr.) koslemenye.
         (SKIN, blood supply
            funct. exam.)

GRUBICH, Vilmos, dr.

Spirotonometry. Orv.hetil. 100 no.46:1654-1657 N '59.

1. Az Orszagos Testneveles- es Sportegeszsegugyi Intezet
(igazgato foorvos: Hajdu Ferenc dr., tudomanyos igazgato:
Nemessuri Mihaly dr.) kozlemenye.
                  (SPIROMETRY)

GRUBIN, A. N.

Engineer, "A Mechanical Method of Profiling Side
Milling Cutters,"

Stanki I Instrument, 10, No. 1, 1939

Report U-1505, 4 Oct. 1951

GRUBIN, A. N., M. B. LIKHTSIER and M. S. POLOTSKII.

Zuboreznyi instrument.

Moskva, Mashgiz, 1946. 2 v. diagrs.

Bibliography: v.2, p.229-(230).

(Gear-cutting tool.)

DLC: TJ187.07
(w.:v.1.)

SU: Manufacturing and Mechanical Engineering in the Soviet Union, Library of
     Congress, 1953.

Grubin, A.N.

735. Grubin, A. N., and Lihachev, Yu. L., Analysis of the stressed state arising in the stage of large plastic deformations in stretching cylindrical specimens with ring-shaped groove (in Russian), Zh. tekh. Fiz. 25, 513-528, 1955.

Analysis is given of the problem of the progressive quasistatic extension under axial force of a circular cylinder with a transverse groove cut along its surface. The problem is therefore one of rotational symmetry, and all quantities are functions of two space coordinates and a time coordinate specifying the progress of the deformation. The method is based upon a finite-strain theory of plasticity. At the outset, a power series development in an axial coordinate is assumed for the components of displacement, the coefficients in these series being unknown functions of a radial coordinate. The method proceeds through various approximations. In particular, approximations occur in connection with the above series and with the satisfaction of the boundary conditions at the progressively deforming groove. No application is made to any specific problem.

Reviewer's note: This problem is of considerable technological importance. Unfortunately, an analysis based upon an incremental theory of plasticity would be prohibitively difficult at the present time. The circumstances in which results predicted by the present analysis will be sufficiently reliable for design use are to be determined only through direct comparison with experimental data.

Courtesy of Mathematical Reviews   H. G. Hopkins, England.

SOV/137-57-6-10882

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 212 (USSR)

AUTHOR: Grubin, A.N.

TITLE: In-plane Transverse Bending of Beams of Constant Cross Section
             Under Conditions of Steady Creep (Ploskiy poperechnyy izgib sterzh-
             ney postoyannogo secheniya v usloviyakh ustanovivsheysya polzu-
             chesti)

PERIODICAL: Sb. nauch. tr. Kuybyshevsk. industr. in-t, 1956, Nr 6, book 2,
             pp 3-22

ABSTRACT: A method is set forth for the solution of problems of in-plane
             transverse bending of beams of constant cross section under condi-
             tions of steady creep. Equations are presented descriptive of the
             elastic and plastic states of the material and the conditions for the
             appearance of possible variations in the plane stressed state under
             conditions of absence of variations of external forces upon the real
             shifts in the body. The new method of variations suggested, which
             offers an effective solution of these problems, is based on finding an
             infinite multiplicity of functions for σ_x, σ_y, and τ_{xy}, dependent upon
Card 1/2   a single parameter and satisfying the differential equations for

SOV/137-57-6-10882

In-plane Transverse Bending of Beams (cont.)

equilibrium, the integral conditions for equilibrium, and also the contour condi-
tions. The method of finding the functions, for σ_x, σ_y, and τ_{xy}, consisting of the
fact that a function in the form $\sigma_x = M_x y^k / I_k$ is selected for σ_x, is fundamentally
new. Here I_k is the generalized moment of inertia, k is an arbitrary parameter,
and M_x is the bending moment in the given cross section. The method proposed
is explained in terms of examples for the bending of a cantilever beam of constant
cross section under conditions of concentrated and uniformly distributed loads.

L.G.

Card 2/2

Grubin, H. N.

Chelyabinskiy Politekhnicheskiy Institut.

Raschet na prochnost' elementov konstruktsiy (Analysis of Strength of
Structural Elements) Moscow, Mashgiz, 1957. 130 p. (Series: <u>Its</u>
Sbornik statey, vyp. 11) 5,000 copies printed.

Reviewers: <u>Grubin, A.N.</u>, Doctor of Technical Sciences, Gonchar, V.N.,
Kempner, M.L., Kudryavtsev, A.F., Romalis, B.L., Skornyakov, V.B.,
Candidates of Technical Sciences, and Bybin, S.A., Engineer;
Ed.: Gokhfel'd, D.A., Candidate of Technical Sciences; Tech. Ed.:
Sarafannikova, G.A.; Executive Ed. (Ural-Siberian Branch, Mashgiz):
Kravtsov, V.S.

PURPOSE: This book is intended for engineers, technicians and
scientific workers.

COVERAGE: The articles in this collection were written by scientific
workers of the Chelyabinsk Polytechnical Institute in connection
with personnel of the Chelyabinsk Tractor Plant. The articles deal

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Analysis of Strength of Structural Elements   981

with the strength and plasticity of structural elements and machine parts. The author states that these articles are based on practical problems of great interest to Soviet industry. They are not, however, exhaustive scientific studies.

TABLE OF CONTENTS:

Gokhfel'd, D.A., Candidate of Technical Sciences, Grimenko, N.I., Engineer, Chernyshev, V.M., Engineer. Investigation of Static Stresses in the Frame of a High-power Tractor
The authors consider the model of a frame as a statically indeterminate system. They think that this investigation may be useful for the determination of stresses in real frames in operating conditions. There are 6 Soviet references

Card 2/6

Analysis of Strength of Structural Elements   981

Karpachev, N.F., Engineer. Investigation of a Laminated Torsion
Bar   20
   Laminated torsion bars are widely used in the construction of
   heavy tractors and in other fields of industry. The author
   develops a theory for their analysis and gives some data of the
   experimental verification of his theory. There are 3 Soviet
   references.

Gokhfel'd, D.A., Candidate of Technical Sciences. Elastic-Plastic
State of a Disc Due to Non-uniform Heat Distribution (Effect)   48
   The author describes a particular case, of high temperature
   effect of the gas turbine rotor disc on the perophery of which
   a plastic region can be formed. The approximate method for
   determining stresses and deformations of the elasto-plastic
   rotor disc of a complex profile is presented. There are 6
   Soviet references.

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Analysis of Strength of Structural Elements   981

Visyashchev, V.S., Engineer. Investigation of the Distribution of
Forces and Stresses in a "Fir-tree" Type Attachment of an Aircraft
Turbine Blade in the Elastic State of the Material   59
    In the described method of analysis of the "fir-tree" type
    turbine blade attachment, the author assumes that: 1) the
    blade is under tensile stresses due to centrifugal forces,
    2) stresses in the attachment of the root of the blade and
    the corresponding portions of the disc are distributed along
    the height in sections, and in the limits of each section the
    cross-sectional dimensions and the temperatures are averaged,
    3) The centrifugal forces distributed in the attachment are
    replaced by statically equivalent concentrated forces applied
    at the centroids of the analysed sections, 4) no other stresses
    need be taken under consideration. There are 3 Soviet
    references.

Card 4/6

Analysis of Strength of Structural Elements   981

Visyashchev, V.S., Engineer, Strength Analysis of a Fir-tree   80
Attachment of Aircraft Turbine Blades in Creep Conditions
    The author states that the strength of the fir-tree type
attachment of a turbine blade is basically determined by creep
conditions. His analysis is based on the general flow theory of
plasticity and creep in the presence of experimental relation-
ships between the intensity of the speed, shear deformation, and
the intensity of shearing stresses. There are 4 Soviet
references.

Popov, N.P., Engineer. Influence of the Surface Finish on the   103
Fatigue Strength of Springs
    The author gives characteristics of springs whose surfaces were
treated by shot peening, galvanic zink plating, nitriding, and
varnishing, and compares them with untreated springs. There
are 2 Soviet references.

Card 5/6

Analysis of Strength of Structural Elements   981

Vydrin, V.N., Candidate of Technical Sciences. On the Theory of
Energy in Plastic Deformation in Connection With the Plasticity
Equation   111
    The author states that the plasticity equation, expressed in
terms of the principal stresses and based on the theory of
constancy of the potential energy (theory of Mises, Huber,
Hencky) is not adequate for solution of problems related to
plastic deformations. He finds it expedient to solve the
problem of relationship between principal stresses by use of
the theory of plastic strain energy, which, according to the
author, was formulated by the Soviet scientist, A.F.Golovin.
Illustrative example (problem) is presented. There are 6
Soviet references.

Vydrin, V.N., Candidate of Technical Sciences. Connection between
Displacements and Stresses in Plastic Deformations   127
    The author examines the case of the mathematical theory of
plasticity where the connection between stresses and strains in
plastic deformations is given in the form of the equality of
corresponding coefficients. There are 3 Soviet references

AVAILABLE: Library of Congress   IS/whl
Card 6/6   1-13-59

Grubin, A. N.

SOV/24-58-4-33/39

AUTHOR: Irley, D.D.

TITLE: Conference on Sustained Static Strength of Turbine
            Components Working at High Temperatures (Soveshchaniye po
            dlitel'noy staticheskoy prochnosti detaley turbossalin,
            rabotayushchikh pri vysokoy temperature)

PERIODICAL: Investiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh
            Nauk, 1958, Nr 4, pp 149 - 150 (USSR)

ABSTRACT: The Commission on the Strength of Gas Turbines from the
            Institut mekhaniki AN SSSR (Institute of Mechanics of the
            Ac.Sc.USSR)(Chairman - Yu.N. Rabotnov) and the Strength
            Section of the Leningrad Technical Committee on Turbine
            Construction (Chairman - V.K. Naumov) held a conference
            during November 20-22, 1957 on the sustained static
            strength of turbine components working at high temperature.

SOV/24-58-4-33/39

Conference on Sustained Static Strength of Turbine Components
Working at High Temperatures

G.A. Gulyakov   (TsNIITMASh) described the results of an
experimental investigation of creep in the boiler steel
1Kh 18N 9T(FiMakin) under complex stress conditions.
M.N. Koig (TsAGI im. Polunov) gave a paper on
"Investigation of Deformation and Sustained Strength of
Tubes" containing results on the study of creep under
complex stress conditions.
A.M. Grubin (Vysheye Voyenno-morskoye uchilishche im.
Dzerzhinskogo imeni Naval School im. Dzerzhinskiy)
read a paper on "Calculation of the 'Fir-tree' Roots of
Blades of Gas Turbines in the Creep Deformation Region"
L.M. Kachanov (Leningradskiy gosudarstvennyy universitet -
Leningrad State University and TsKTI im. Polzunov) dealt
with creep under initial plastic deformation, with a view
to calculating the deformation state of components made
from special heat-resistant steels.
Yu.N. Rabotnov (Moscow State University, Institut mekhaniki
AN SSSR - Institute of Mechanics of the Ac.Sc.USSR) described
the results of theoretical and experimental investigations of
unsteady creep under complex stress conditions. He
remarked that there now exists a theory, agreeing satis-
factorily with experimental data, which permits the
calculation of the stress and deformation state in turbine
disks and rotors at high temperatures. In addition, he
has designed apparatus for investigating sus-
tained strength and creep of heat resisting alloys under
complex stress conditions and a number of valuable
results have been obtained with this apparatus.
B.F. Sokolov (TsKTI im. Polzunov) discussed the nature
of the nature of loading of components working at high
temperatures.
S.V. Serensen (TsIAM) gave a paper "On Constructional
Factors of Sustained Static Strength" which described
results obtained on low-power turbine equipment.
The paper of M.S. Kolinovskiy dealt with the bearing
capacity of turbine rotors.
Many participants remarked on the increasing need for
extensive coordination of work in the field of strength
of gas turbines.

Card 5/7

ANDOZHSKIY, Vsevolod Dmitriyevich, dotsent, kand.tekhn.nauk; BELYANIN,
    Aleksandr Ivanovich, inzh.; VEYTS, Vladimir L'vovich, inzh.;
    GINZBURG, Yevgeniy Grigor'yevich, inzh.; YEFIMOVICH, Aleksey
    Illarionovich, inzh.; KRIVENKO, Igor' Semenovich, inzh.; SHANNIKOV,
    Vladimir Mikhaylovich, doktor tekhn.nauk; FRENKEL', Izrail' Nakh-
    manovich, kand.tekhn.nauk; GRUBIN, A.N., prof., doktor tekhn.nauk,
    retsenzent; KOLCHIN, N.I., prof., doktor tekhn.nauk, red.; GOLO-
    VANOV, N.F., kand.tekhn.nauk, red.; SIMONOVSKIY, N.Z., red.izd-va;
    POL'SKAYA, R.G., tekhn.red.

[Gear and worm drives: some problems in theory, design, and
manufacture] Zubchatye i cherviachnye peredachi; nekotorye voprosy
teorii, rascheta i proizvodstva. Pod red. N.I.Kolchina. Moskva,
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 219 p.
                    (Gearing)   (MIRA 12:6)

LITVIN, Faydor L'vovich; GRUBIN, A.N., prof., doktor tekhn.nauk,
retsenzent; SPERANSKIY, N.V., red.; KRYUCHKOVA, V.N., tekhn.red.

[Theory of gears] Teoriia zubchatykh zatseplenii. Moskve,
Gos.izd-vo fiziko-matem.lit-ry, 1960. 444 p.
                                              (MIRA 14:3)

            (Gearing)

LITVIN, F.L., prof., doktor tekhn. nauk.Prinimal uchastiye BERNATSKIY,
I.P.; GRUBIN, A.N., prof., doktor tekhn.nauk, retsenzent;
VASIL'YEVA, V.P., red.izd-va; PETERSON, M.M., tekhn. red.

[New types of cylindrical worm gears]Novye vidy tsilindriche-
skikh cherviachnykh peredach. Moskva, Mashgiz, 1962. 102 p.
(MIRA 16:1)

(Gearing, Worm)

S/114/62/000/003/002/005
E081/E435

AUTHOR: Grubin, A.N., Doctor of Technical Sciences, Professor

TITLE: Stress concentration in tension under conditions of plane and axially symmetric creep deformation

PERIODICAL: Energomashinostroyeniye, no.3, 1962, 18-21

TEXT: An analysis has been made of the stress distribution as a function of time in the notched specimens shown in Fig.1 subjected to a tension P with particular reference to stress concentration in gas and steam turbine parts at high temperatures. A plane problem (Fig.1) and an axially symmetric problem (Fig.2) are considered.   The plane problem is analysed in terms of a rectangular coordinate system x, y, z and the axially symmetric problem in terms of a cylindrical coordinate system z, r, θ. It is assumed that

$$\sigma_x > \sigma_z > \sigma_y \qquad \text{(plane problem)}$$
$$\varepsilon_x > \varepsilon_z > \varepsilon_y$$

Card 1/3

Stress concentration in tension ...

$$\sigma_z > \sigma_\theta > \sigma_r$$
$$\varepsilon_z > \varepsilon_\theta > \varepsilon_r$$

(axially symmetric
problem)

where σ represents normal stress and ε linear strain.
For simple extension, the creep law is taken as

$$\varepsilon_x = \Omega_1(t)\sigma_x^m + \frac{\sigma_x}{E} \tag{4}$$

where E is the elasticity modulus, m - a constant depending on
the material and temperature and $\Omega_1(t)$ - some function of time.
Following H. Neuber (Ref.2: Kerbspannungslehre, Berlin, Springer-
Verl., 1958), equations are established for the strains in the
smallest section of the specimens. The equilibrium equations and
the boundary conditions for the stresses are stated. An
approximate solution for the maximum axial stress is obtained on the
basis of these equations and a graph is given (Fig.3) showing the
change in the maximum axial stress $(\sigma_x)_{max}$, $(\sigma_z)_{max}$ with time
t, hours, for the following conditions (definitions as shown in ✗
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S/114/62/000/003/002/005
Stress concentration in tension ...   E081/E435

Fig.1):   Plane problem: P = 3600 kg, a = 4 mm, r_o = 0.5 mm,
b = 30 mm, E = 1.75 x 10^4 kg/mm^2, m = 2;   for a service life
of 5000 hours the maximum equivalent stress is approximately
42 kg/mm^2.   Axially symmetric problem: P = 753.6 with the
remaining values (except b) as for the plane problem;   for a
service life of about 10000 hours the maximum equivalent stress is
approximately 34 kg/mm^2.   There are 3 figures, 1 table and
8 references: 5 Soviet-bloc and 3 non-Soviet-bloc.   The two
references to English language publications read as follows:
Ref.3: Wahl A.,   Journ. Appl. Mech., v.23, 2, 1956;
Ref.7: Fried M.L. and Sachs G. Am. Soc. for testing materials,
1948. Special technical publication, no.87.

Card 3/5

41895
S/740/62/000/009/002/002
E191/E135

$2t \cdot \nu / \nu \nu$

AUTHOR: Grubin, A.N.

TITLE: Stress analysis for static endurance strength of the firtree root joint of gas turbine blades

SOURCE: Akademiya nauk SSSR. Institut mashinovedeniya. Problemy prochnosti v mashinostroyenii. no.9, 1962. 97-129.

TEXT: The stress analysis is applied to the plane strain problem of a firtree root. The load, originating in the centrifugal pull of the blade, is assumed evenly distributed over the line of contact of each tooth, an assumption claimed to be substantiated experimentally. Since the precise stress distribution in a firtree shape is complex, the stems and the . teeth must be considered separately both in the blade and the disc. A system of resultant force components is defined which fits this approach. The stress distribution in the tooth fillet region remains unknown. At first, after running up the turbine, the elements of the joint suffer elastic deformation or, sometimes, elasto-plastic deformation. The former case is assumed in the

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present paper. It is further assumed that during non-steady-state
creep the direct stress never exceeds the static yield stress.
An elasto-plastic initial phase, the appearance of stresses
exceeding the yield point, and stress concentration in the tooth
fillets have all been considered in published literature.   The
basic stress and strain distribution of the teeth in the initial
elastic phase are analysed, starting from the differential
equation of elastic equilibrium for plane problems and dividing
the tooth into its loaded and unloaded lengths. The stress
components are found for each section after applying Castigliano's
principle. An approximate method for computing the deflection is
given. The stresses in elements of the blade root and disc
projection stems are obtained, using simplified assumptions
regarding the centrifugal force and the stresses transferred from
the teeth. Each element extends over the radial length of one
tooth. The stresses are obtained at first in the initial elastic
phase of deformation. The deformations are computed from the
stresses. Up to this point the stressed state has been analysed
for arbitrary tooth loads. The unknown tooth loads are now

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computed from one equation of static equilibrium and as many
equations of compatibility of deformations as are required for the
number of unknown tooth loads. These equations are reduced to a
system of linear algebraic equations in the initial elastic phase.
If the solution for one or more of the tooth loads becomes
negative, a clearance appears between the corresponding teeth.
These negative loads are then assumed to vanish and the equation
in the linear system corresponding to the serial number of the
negative load is eliminated. A new solution is thus obtained.
A zero load is still possible among the loads of the final
solution. Practical analysis has shown that, with a precise tooth
pitch and some difference in the thermal expansion coefficient,
the load becomes unevenly distributed among the teeth, the upper
teeth being the most highly loaded. The loads are then computed
for the state of steady creep defined as the condition of equal
rate of deformation at all points. The load and stress
distribution remain constant with time. It is assumed that all
clearances have been eliminated already in the elastic phase of
deformation. A power law is assumed between the equivalent pure
shear stress and the rate of equivalent pure shear strain.
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Stress analysis for static ...

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The factor of proportionality is related to the factor in a
similar law for normal stress and the rate of normal strain as
derived from tensile tests. The exponents are the same. The
rates of strain of the teeth are found by an approximate method
using the Castigliano theorem. This is followed by strain
analysis in the blade root and disc projection stems. Once again,
the tooth loads are found as solutions of a system of linear
algebraic equations. If a temperature gradient exists over the
length of the firtree joint, the constant of proportionality in
the above power law decreases and the exponent increases. The
upper teeth become less loaded, whilst the static endurance
strength increases for the lower teeth so that the overall safety
factor improves. The load distribution between the teeth under
steady creep conditions is independent of the distribution when
the turbine starts working. Sometimes the period of unsteady
creep is long enough to justify a separate analysis. The absence
of clearance in the joint is assumed. For simple tension, the
rate of strain is the sum of a creep component (which follows the
power law but with a factor variable with time and independent of

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                                        E191/E135

the stress) and an elastic component (proportional to the rate
of change of stress). Due to this breakdown, the stress and
strain distribution throughout the joint can be found by making
use of the elastic and steady creep methods·of analysis.
There are 9 figures.

Card 5/5

S/0137/64/000/004/I039/I039

ACCESSION NR: AR4041545

SOURCE: Ref. zh. Metallurgiya, Abs. 41235

AUTHOR: Grubin, A. N.

TITLE: Influences of concentration of stresses on longevity of brittle heat--resistant alloys

CITED SOURCE: Sb. Polzuchest' dlitel'n. prochnost'. Novosibirsk, Sib. otd. AN SSSR, 1963, 75-87.

TOPIC TAGS: stress concentration, brittle alloy, heat resistant alloy, creep strain

TRANSLATION: An attempt is made to approximately solve the problem of the state of strain of stretched notched test pieces in the initial elasto-plastic stage of strain and in the subsequent stage of creep strain, and estimate longevity of such test pieces. In accordance with Neuber's scheme there is determined

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ACCESSION NR: AR4041545

separately the coefficient of concentration of stresses in test pieces with deep and shallow notches which then gives the possibility of calculating by Neuber's interpolation formula the coefficient of concentration of stresses in a real piece. The problem is solved for hyperbolic profile of the deep notch and elliptic profile of the shallow one. The rectilinear profile with curvature at the base of the notch applied in practice is easily recalculated on the two shown shapes of profiles. The solution is valid only for small strains ($\leqslant$ 2-3%), which for brittle heat-resistant alloys embraces strain up to fracture. Theoretical calculations satisfactorily coincide with experimental results. Bibliography: 8 references.

SUB CODE: MM, AS   ENCL: 00

Card 2/2

L 22466-65   EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b)   SSD/AFWL/ASD(f)-3/
ASD(m)-3/AFETR   JD/EM

ACCESSION NR: AR4045244   S/0124/64/000/007/V087/V088

SOURCE: Ref. zh. Mekhanika, Abs. 7V661

AUTHOR: Grubin, A. N.

TITLE: The effect of stress concentration on the longevity of brittle heat
resistant alloys

CITED SOURCE: Sb. Polzuchest' i dlitel'n. prochnost. Novosibirsk, Sib. otd.
AN SSSR, 1963, 75-87

TOPIC TAGS: stress concentration, alloy longevity, brittle alloy, heat resistant
alloy, notch stress, creep

TRANSLATION: The author studied the stress state in a notch cut into stretchable
samples with a deep hyperbolically contoured and shallow elliptically contoured
groove during both the initial elastic-plastic stage of deformation and the sub-
sequent creep stage. Analytical relationships between stresses and strains are

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ACCESSION NR: AR4045244

given. A corrected function is introduced in the consideration of the creep stage, in the event of initial elastic-plastic deformation, in order to make allowance for the unloading effect of the purely plastic part of the deformation. A quantitative determination of notched sample lifetime is made. Knowing the dependence of the maximum normal stress $\sigma_{max} = \sigma_0 k_\rho$ on time for a real sample, one can calculate the "equivalent" stresses for different "t" by the following formula

$$\sigma_{eku} = \left[\frac{1}{t} \int_0^t (\sigma_{max})^{-m} dt \right]^{-1/m}$$

and construct graphs for $\lg \sigma_{equiv}$ - $\lg t$ for a series of values of the calculated stress σ_0. The points at which these curves intersect with the stress-rupture strength curve of smooth samples give the time-to-failure of the notched samples. I. I. Ishchenko

SUB CODE: MM   ENCL: 00

Card. 2/2

GRUBIN, A.N. (Leningrad):

"The character of fracture of ductile metals under stress-concentration
conditions."

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 Jan - 5 Feb 64.

MARSHAK, M., prof.; GRUBINA, A., starshiy nauchnyy sotrudnik

Healthy food. Mast.ugl. 9 no.2:30 F '60. (MIRA 13:7)

1. Institut pitaniya AMN SSSR (for Grubina).
(NUTRITION)

GRUBINA, A. Yu.

Digestibility and nutritional value of rye bread depending on its moisture content. A. Yu. Grubina, V. V. Shcher-batenko, L. R. Mikulinskaya, and V. V. Pushovkin (All-Union Sci. Research Inst. Bakery Ind., Moscow). *Voprosy Pitaniya* 14, No. 2, 27-30(1955).—Three different samples of rye bread, differing in their moisture contents (55, 51, and 48%, resp.), excluding the bread crust, have been studied for their organoleptic properties (taste, porosity, color of the crust); phys. properties (percentage of porosity, sp. vol., compressibility, relative elasticity, and adhesiveness), and chem. properties (moisture, acidity, sugar, cellulose, and fat) and for the utilization of their proteins by human organism. The results indicate that the phys. properties are greatly changed by the moisture content of bread; that the normal taste of rye bread is affected when the moisture content is over 50%; that the chem. compn. of the bread is only slightly changed (sugar 1.32, 1.43, and 1.53; cellulose 1.02, 1.05, and 1.26; and fat 1.31, 1.3, and 1.38% for the breads contg. 55, 51, and 48% moisture, resp.); and that the nutritional value of the bread decreases with increasing moisture content (av. utilization values for the original bread dietary proteins utilized by 4 men during a 3-day period with increasing the moisture content of the bread were 74.23, 71.52, and 69.4%, resp.).   B. Wierbicki

INST. Nutrition Acad Medical Sci USSR

GRUBINA, A.Yu.; MARSHAK, M.S.

Principles of the pattern and methods of organization of theropentic
and prophylactic nutrition for workers in various branches of
industry. Vop. pit. 18 no. 6:3-9 N-D '59.   (MIRA 14:2)

1. Iz Instituta pitaniya AMN SSSR, Moskva.
              (INDUSTRIAL MEDICINE) (NUTRITION)

RAZUMOV, M.I.; SKIRKO, B.K.; GRUBINA, A.Yu.; YEZHOVA, Ye.N.

Significance of the crystalline and amorphous variety of silicon
dioxide in the etiology and pathogenesis of silicosis. Arkh.pat.
22 no.2:38-46 '60.   (MIRA 13:12)
           (LUNGS—DUST DISEASES)   (SILICA)

GRUBINA, A.Yu.; KRAYKO, Ye.A.; MASLENIKOVA, Ye.M.; RAZUMOV, M.I.; SERGEYEVA, M.A.; SKIRKO, B.K.; SHISHOVA, O.A.

Effect of food enriched by methionine on the development of experimental silicosis in white rats. Vop.pit. 20 no.3:41-46 My-Je '61.
(MIRA 14:6)

1. Iz Instituta pitaniya AMN SSSR, Moskva.
(LUNGS—DUST DISEASES)   (METHIONINE)   (DIET)

GRUBINA, A.Yu.; YEZHOVA, Ye.N. [deceased]; KRAYKO, Ye.A.;
MASLENIKOVA, Ye.M.; RAZUMOV, M.I.; SERGEYEVA, M.A.;
SKIRKO, B.K.

Influence of riboflavin on the course of experimental silicosis
in white rats. Vop. pit. 20 no.6:40-45 N-D '61. (MIRA 15:6)

1. Iz Instituta pitaniya AMN SSSR, Moskva.
            (LUNGS--DUST DISEASES)
         (RIBOFLAVIN--PHYSIOLOGICAL EFFECT)

RAZUMOV, M. I.; SKIRKO, B. K.; GRUBINA, A. Yu. (Moskva)

Influence of massive doses of vitamin B_2 on the development and course of experimental silicosis in white rats. Arkh. pat. no.8: 55-62 '61.   (MIRA 15:4)

1. Iz Instituta pitaniya AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. O. P. Molchanova)

        (RIBOFLAVIN)   (LUNGS—DUST DISEASES)

RAZUMOV, M.I.; SKIRKO, B.K.; GRUBINA, A.Yu. (Moskva)

Comparative data on the silicogenic influence of different
preparations of quartz (Experimental study). Arkh.pat. no.3:
13-20 '62.
(MIRA 15:3)

1. Iz laboratorii patologicheskoy morfologii (rukovoditel' -
doktor med.nauk M.I. Razumov) i laboratorii obmena veshchestv
i energii (rukovoditel' - prof. O.P. Molchanova) Instituta
pitaniya AMN SSSR.
(QUARTZ—TOXICOLOGY) (LUNGS—DUST DISEASES)

GELBIKA, A.P.;

Effect of riboflavin- and methionine-enriched
course of experimental actinomycin. Vop. pit.

in parentheses: Riga all USSR, Moscow.

GRUBINA, S.A.; SHAPIRO, G.L.

Gastric surgery in peptic ulcer. Trudy LSGMI 20:140-151 '54.
(MLRA 10:8)

1. Gospital'naya khirurgicheskaya klinika Leningradskogo sanitarno-
gigiyenicheskogo meditsinskogo instituta, zav. klinikoy - zasl.
deyatel' nauki, prof. A.V.Smirnov i fakul'tetskaya khirurgicheskaya
klinika Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo
instituta zav. klinikoy - prof. P.N.Napalkov
(PEPTIC ULCER, surgery,
results)

GRUBINA, S.A.

Industrial accidents among miners of the Nelidovo Mine Construction
Trust. Trudy LSGMI 39:122-129 '58.   (MIRA 12:8)

1. Kafedra gospital'noy khirurgii Leningradskogo sanitarno-
gigiyenicheskogo meditsinskogo instituta (zav.kafedroy - z.d.k.,
prof.A.V.Smirnov).
          (ACCIDENTS, INDUSTRIAL, statist,
               in miners in Russia (Rus))

SMIRNOV, A.V., prof.; EL'BERG, G.A., doktor med.nauk; BALAKHNINA, T.A.;
MISHKINA, V.I.; GRUBINA, S.A.

Aleksandr Ivanovich Ermolenko; obituary. Vest.khir. 82
no.4:159 Ap '59.   (MIRA 12:6)
      (ERMOLENKO, ALEKSANDR IVANOVICH, 1891-1958)

GUBENKO, B.A., kand. med. nauk (Leningrad, Vereyskaya ul.,43, kv.2)

Embolism of the pulmonary artery. Vest. khir. 92 no.4:
145-152 Ap '64.   (MIRA 18:1)

1. Iz 1-y kliniki obshchey khirurgii (zav. - prof. A.V.
Smirnov) Leningradskogo sanitarno-gigiyenicheskogo medi-
tsinskogo instituta.

GRUBISIC, D.

A survey of trawling by draggingp, 420.
(Gozdarski vestnik, Vol. 8, No. 12, Dec. 1956, Ljubljana , Yugoslavia)

SO: Monthly List of East European Accessions (EEAL) Lc.Vol. 6, No1.8, Aug 1957. Uncl.

GRUBISIC, F.

"Curbs in trawling." p. 153. (Morsko Ribarstvo. Vol. 3, no. 9/10, Sept./Oct. 1951. Zagreb.)

SO: Monthly List of East European Accessions, Vol. 3, no. 6, Library of Congress, June 1954.
Uncl.

CANDELL, F.

"Lobster Fishing and Its Regulations", P. 111, (............, ...,
No. 9/10, 1954, Zagreb, Yugoslavia)

SO: Monthly List of East European Accessions (EEAL), .., ..., ...,
Mar h 1955, Uncl.

GRUB___, _.

A few words about fishing boats. p. 110.   MORSKO RIBARSTVO.
Udruz nje Morskog ribarstva jugoslavije Rijeka.

Vol. 7, No. _, May 1955

SOURCE: East European Accessions List, (EAL), Library of
          Congress, Vol.4, No. 12, December 1955

GRUBISIC, F.

Hunting whales. p. 147. MORSKO RIBARSTVO. (Udruzenje morskog ribarstva Jugoslavije) Rijeka.

Vol. 7, No. 6, June 1955

SOURCE: East European Accessions List, (EEAL). Library of Congress, Vol. 4, No. 12, December 1955

GRUBISIC, F.

Fishing practice and the sea in echo sounding. p. 199. MORSKO RIBARSTVO.
(Udruzenje morskog ribarstva Jugoslvije) Rijeka. Vol. 7, No. 8, Aug. 1955.

SOURCE: East European Accessions List, (EEAL) Library of Congress,
Vol. 5, No. 8, Aug. 1956.

CRUBISIC, F.

GRUFISIC, I. Seine fishing in Denmark. p. 203.
          New purchase prices for salt-water fish... .. ....

Vol. 7, No. 10, (ct. 1955.
MORSKO RIL. STVC
AGRICULTURE
Rijeka, Yugoslavia

So: East European Accession, Vol. 5, No. 5, May 1956

CHUBRISIC, F.

Contribution to the discussion about fishing boats. p. 87.
MORSKO RIBARSTVO. (Udruzenje morskog ribarstva Jugoslavije)
Vol. 8, no. 3, March 1956.

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

GRUBISI*, F.

Trawlers with a three-member crew. p. 123

Found in vol. 8, no. 4, April 1956
In Rijeka, Yugoslavia (MORSKO RIBARSTVO

So. EAST EUROPEAN ACCESSIONS LIST Vol. 5, No. 7 July 1956

GRUBISIC, F.

GRUBISIC, F. The effect of Euforbia vulfenii on marine organisms. p. 221.

Vol. 8, No. 7, July 1956.
MORSKO RIBARSTVO
AGRICULTURE
Rijeka, Yugoslavia

So: East European Accession, Vol. 6, No. 2, February 1957

GRUBISIC, F.; ZUPANOVIC, S.

Trawling without dragging. p. 19.
(Gozdarski vestnik, Vol. 9, No. 1, Jan. 1957, Ljubljana, Yugslovia)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957. Uncl.

GRUBISIC, F.

Review of Ante Tadic's book O slatkovodnim i morskim rabama (Fresh-Water and Salt-Water Fishes.) p. 34.
(Gozdarski vestnik, Vol. 9, No. 1, Jan. 1957, Ljubljana, Yugslovia)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957, Uncl.

TURTIĆ, D.

Notes on our conditions.

S. 17 (Pomorski Zbornik) (Rijeka, Yugoslavia) Vol. 13, no. 1, Jan. 1968

D: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 7, 1958

GRUBISIC, F.

New possibilities for the sponge industry. p. 5.

Periodical: MORSKO RIBARSTVO.

Vol. 11, no. 1, Jan. 1959.

AGRICULTURE

SO: Monthly List of East European Accessions (EEAI) LC

Vol. 8, No. 4
April 1959, Uncl.

GRUBISIC, F.

Results of the test winter fishing of mackerel at Pelagruz Islands.
p. 53

MORSKO RIBARSTVO. (Udruzenje morskog ribarstva Jugoslavije) Rijeka,
Yugoslavia. Vol. 11, no. 3, Mar. 1959

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 6
June 1959
Uncl.

GRUBISIC, F.

The extent of sardine shoals and the length of the bluefish. p. 61

MORSKO RIBARSTVO. (Udruzenje morskog ribarstva Jugoslavije) Rijeka,
Yugoslavia. Vol. 11, no. 3, Mar. 1959

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 6
June 1959
Uncl.

GRUBISIC, F.

Trawling with two ships. P 95

MORSKO RIBARSTVO. (Udruzenje morskog ribarstva Jugoslavije) Rijeka, Yugoslavia
Vol. 11, no. 5, May 1959

Monthly List of East European Accessions (EEAI) LC. vol. 8, no. 9, Sept. 1959

Uncl.

CRNOBISIC, F.

Most recent methods in lifting nets from the sea.   p. 144

MORSKO RIBARSTVO. (Udruzenje morskog ribarstva Jugoslavije) Rijeka,
Yugoslavia. Vol. 11, no. 7, July 1959

Monthly list of East European Accessions(EEAl) LC Vol. 9, no. 2
Feb. 1960

Uncl.

GRUBISIC, F.

Degree of development of our fishing methods and means.   p. 161

MORSKO RIBARSTVO.   (Udrusenje morskog ribarstva Jugoslavije) Rijeka,
Yugoslavia.   Vol. 11, no. 8, Aug. 1959

Monthly list of East European Accessions (EEAI) LC Vol. 9, no. 2
Feb. 1960

Uncl.

GRUBISIC, Fabjan

The spawning period of some Adriatic fishes in the central part of Dalmatia. Bilj ocean no.18:1-3 '62.

1. Institut za oceanografiju i ribarstvo, Split.

PIPIRAS, Yuozas, dots., kand. veter. nauk; AIZINBUDAS, Leizeris;
    RUSINAS, Simas; GRUBLIAUSKAS, Liudvikas; KILAS, M., red.

[Principles of veterinary medicine] Veterinarijos pagrindai.
Vilnius, Mintis, 1965.   287 p. [In Lithuanian]
                                                (MIRA 18:7)

86353
S/046/60/006/004/002/022
B019/B056

$6.8000(3201, 1099, 1162)$

AUTHOR: Grubnik, N. A.

TITLE: An Investigation of the Acoustic Properties of Underwater
             Bottoms at High Audio-frequencies

PERIODICAL: Akusticheskiy zhurnal, 1960, Vol. 6, No. 4, pp. 446 - 453

TEXT: A method of measuring the sound reflection coefficient of underwater
bottoms is described as a function of the frequency and the angle of
incidence. The measurements were carried out with standing waves, for which
purpose experimental conditions were chosen, at which the multiply reflec-
ted waves could be neglected. This was obtained by means of a shielded
radiator. For these measurements, a contraption was used, which permitted
the exact determination of the pressure distribution along the perpendicu-
lar to the bottom as well as at various angles of incidence. Preparative
experiments were carried out at the Moskovskoye Sea by the Volzhskaya
nauchnaya stantsiya (Volzhsk Scientific Station). For sandy bottoms, a
reflection coefficient of 0.76 and a phase position of the reflection
coefficient of 0.96π were measured. In the case of slimy sandy bottom, a

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An Investigation of the Acoustic Properties
of Underwater Bottoms at High Audio-frequen-
cies

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reflection coefficient of 0.68 and a phase position of 0.76π, and in the case of slimy bottoms a reflection coefficient of 0.36 and a phase position of 0.61π were determined. From the results obtained the author draws the conclusion that the reflection takes place somewhat below the water-bottom boundary. Further measurements were carried out in the Caspian Sea. At the place of measurement, the bottom consisted of 5 m clay, and the frequency characteristic as well as the angular dependence of the reflection coefficient were determined. The reflection coefficient is on the average 0.35. The phase position of the normal reflection coefficient is between $+0.005\pi$ and -0.075π, the mean being about -0.04π. As sonic velocity in the bottom, 1755 m.sec^{-1} was calculated, and further, the normal impedance of the bottom is $3.17 \cdot 10^5$ g.cm^{-2}.sec^{-1}. As mean density of the bottom 1.82 g cm^{-3} is given. Calculations showed that the complex reflection coefficient is due to the complex refractive index. The imaginary fraction of the complex refractive index is 8% of the real one. The author thanks V. S. Grigor'yev for his instructions. V. S. Nesterov

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An Investigation of the Acoustic Properties   S/046/60/006/004/002/022
of Underwater Bottoms at High Audio-frequen-   B019/B056
cies

and the Upravleniye geologicheskikh izyskaniy Ministerstva neftyanoy
promyshlennosti AzSSR (Administration of Geological Exploration of the
Ministry of the Petroleum Industry of the Azerbaydzhanskaya SSR) are
mentioned. There are 11 figures and 7 references: 4 Soviet and 3 US.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Institute of
             Acoustics of the AS USSR, Moscow)

SUBMITTED: March 11, 1959

Card 3/3

Grubitz, L

RUMANI. / Chemical Technology. Chemical Products and   H
Their Application. Dyeing and Chemical Treat-
ment of Textile Materials.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 33635.

Author : Grubitz, L., Pasculescu, H.
Inst   : Not given.
Title   : Technical and Economical Observations in the
          Application of Different Fixing Agents.

Orig Pub: Ind. textila, 1958, 9, No 3, 107-108.

Abstract: Instructions are provided for the choice of the
          most economical fixing agents in certain Rumanian
          and imported direct dyes. Acetic solutions of
          potassium dichromate, DCM, levogen VV and syn-
          tefix were used as fixing agents. -- G. Markus.

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GRUBITZ, L.; PASCULESCU, H.

From the experience of the finishing section at the June 11th Textile Enterprise
in Pitesti, in processing textile from fabrics from cellulose fibers. p.421

INDUSTRIA TEXTILA. (Asociatia Stintifica a Inginerilor si Tehnicienilor din
Rominia si Ministerul Industriei Usoare)
Bucuresti, Rumnia
Vol. 10, no.10, Oct. 1959

GRUBLYAUSKAS, L. K.

"The Importance of Discovering Swine Infected With a Chronic Form of Erysipelas With the Aid of an Agglutination Reaction in Order to Control This Eqizootic Under the Conditions Which Exist in the Lithuanian SSR." Cand Vet Sci, Lithuanian Agricultural Acad, Kaunas, 1954. (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

USSR/Diseases of Farm Animals - Diseases Caused by Bacteria   R
and Fungi

Abs Jour   : Ref Zhur Biol., No 5, 1959, 21392

Author   : Grubliauskas, L.

Inst   : Lithuanian Veterinary Academy

Title   : The Significance of Detecting Chronic Erysipelas in
               Swine with the Assistance of the Agglutination Reaction
               in Order to Control Epizooty under the Conditions of
               Lithuanian SSR

Orig Pub   : Tr. Lit. vet. akad., 1957, 3, 161-170

Abstract   : It was shown that the antigen for the agglutination reac-
               tion (AR) should be prepared from a strain which is capa-
               ble of agglutination. In comparing the results of intra-
               vitally performed AR with pathologic-anatomical and bacte-
               riological data, it was found that AR is sufficiently

Card 1/2

GRUBMAN, I.

      Repair of hydraulic couplings. Avt. transp. 36 no.5:32 My '58.
        (Automobiles—Maintenance and repair)   (MIRA 11:6)

GRUBNER, Imre

Kinematic and dynamic tests on feeding air cylinder with
hydraulic brakes in pilger mills. Koh lap 97 no.10:464-
469 O '64.

GRUBNER, L.

GRUBNER, L.   Countercurrent electrophoresis on paper. 11. Apparatus.
p. 148   Vol. 50 no. 1, Jan. 1956   CHEMICKE LISTY,
PRAHA.   CZECHOSLOVAKIA

SOURCE: EAST EUROPEAN ACCESSIONS LIST (EEAL) VOL 6 NO 4 April 1957

GRUBNER, Marja; CHMIELEWSKA-ZIELINSKA, Bogumila; GRUSZCZENSKI, Tadeusz

Unpasteurized frozen egg substance. Roczn panstw zakl hig
14 no.2:193-198 '63

1. Division of Hygiene of Feeding and Food, Voivodeship
Sanitary and Epidemiological Station, Kielce.

GRUBNER, O.

Chemical Abst.
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Electrochemistry

Continuous countercurrent electrophoresis on filter paper.
Preliminary communication. J. Dvořák, O. Grubner, and
Z. Šmrný (Charles Univ., Prague, Czechoslovakia). *Chem.
listy* 47, 591-593 (1953). — The method is based on the movement
of charged particles in an elec. field against a stream of electro-
lyte soln. which flows along an inclined paper sheet. The
app. described is suitable for prepn. and sepn. purposes.
E. Erdős

GRUBNER, Otto

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Electrochemistry

Polarographic Investigation of the system cystine-cysteine.
I. Polarography of cysteine. Otto Grubner (Charles
Univ., Prague, Czech.). Chem. Listy 47, 1133-42(1953).—
An anodic wave of cysteine was described. It was observed in neutral and acidic media at potentials more pos.
than those of the anodic wave hitherto investigated. The
concn., pH, and temp. dependences of both waves were
compared. Hg macroelectrodes showed that the anodic
depolarization process did not correspond to the oxidation
of cysteine to cystine but rather to the anodic oxidation of
Hg, the ions of which reacted with cysteine to form compds.
whose soly. depended on pH. Thus, solid films on the electrode surface were formed, and this gave rise to the more
pos. wave. An analogous behavior was found with H₂S.
By means of a special commutator it was ascertained that
the repolarization process connected with the formation of
compds. between cysteine and Hg was reversible. II.
Polarography of cystine. Mirko Kalousek, Otto Grubner,
and Antonin Tockstein. Ibid. 1143-51.—Expts. analogous
to those above lead to a qual. explanation of the polarographic reduction of cystine. The more pos. reduction
wave of cystine was due to the electro-reduction of a
product which was formed on the dropping electrode in
the direct oxidation of Hg by adsorbed cystine. The 2nd
wave was due to the irreversible reduction of cystine to
cysteine. On Hg electrodes, cystine and cysteine did not
form a reversible oxidation-reduction system, and therefore
published values of the oxidation-reduction potentials had
no thermodynamic significance.   E. Erdős

Ed....., O.

"Polaro raphic Investigation of the Cystine-Cysteine System. I. Polarography of Cysteine." p. 444, (COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS. SBORNIK CESKHOSLOVATSKIKH KHEMICHESKIKH PRACT, Vol. 19, No. 3, June 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4 No. 5, May 1955, Uncl.

GRUBNER, O.

CZECH

√1568. Polarographic investigation of the cysteine-cystine system. II. The polarography of cystine. M. Kalousek, O. Grubner and A. Tockstein (Coll. Czech. Chem. Commun., 1954, 19, 1111-1122).—In view of the anomalous behaviour of cysteine and cystine in various potentiometric and colorimetric procedures, as well as the discrepancies in the values quoted for the oxidation potential of the cysteine-cystine system, this system was investigated polarographically. The system is an irreversible one, so that its apparent oxidation potential has no real significance. [This is a translation into Russian of a paper that was published originally in Chem. Listy, 1953, 47, 1143.] M. KAPEL

GRUBNER , O.

Countercurrent electrophoresis on paper. I. Methods. Otto Grubner and Jiří Dvořák (Karlova Univ., Prague), 1767-72(1955).—A new method for prepn. purposes is described; it is based on the movement of charged particles in an elec. field against a stream of electrolyte soln. that flows along an inclined paper sheet. Reproducible rates of flow can be attained by hydrophobization of the supporting glass. The electrode compartments are sepd. by a labyrinth system with agar-agar junctions. The sepn. capacity of the app. depends on the concn. of the mixt. The sepn. capacity of 8 mg. of the most mobile component per day was attained.   E. Erdös