L 35478-65
ACCESSION NR: AP5005604

ASSOCIATION: Institut gidrodinamiki, Sibirskogo otdeleniya AN SSSR (Institute of Hydrodynamics, Siberian Department, AN SSSR)

SUBMITTED: 04May64   ENCL: 01   SUB CODE: OC, MT

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Card 2/3

L 27845-66 EWT(m)/EWP(w)/EPF(c)/EWP(j)/T/EWP(t)/EWP(b) RM/JD/WW

ACC NR: AP5027273   SOURCE CODE: UR/0207/65/000/005/0068/0075

AUTHORS: Barenblatt, G. I. (Moscow); Kozyrev, Yu. I. (Moscow); Malinin, N. I. (Moscow); Pavlov, D. Ya. (Moscow); Shesterikov, S. A. (Moscow)

ORG: none

TITLE: Vibrocreep of polymeric materials

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1965, 68-75

TOPIC TAGS: polymer, caprolyte, stress analysis, stress, stress measurement, creep, creep mechanism

ABSTRACT: This paper presents experimental data and theoretical discussion on the phenomenon of vibrocreep in polymeric materials. The experimental procedure consisted of applying a vibratory stress to a specimen under a static stress and determining the resultant creep $\mathcal{E}$ as a function of time. A schematic of the experimental setup is given, and the experimental results are presented graphically. The experimental results are compared with the theoretical expression

$$\varepsilon_c = \Psi \left\{ \int_0^t \exp -\frac{(U - \gamma\sigma)}{RT} dt \right\},$$

where $\mathcal{E}_c$ is the creep deformation, U - the energy of activation, σ - stress,

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T - temperature, R - the universal gas constant, γ - a constant, t - the time, and ψ is the transform of χ

$$\chi(e_c) = \int_0^{e_c} \frac{de_c}{F(e_c)} = \int_0^t \exp{-\frac{(U - \gamma\sigma)dt}{RT}} ,$$

in which $F(\mathcal{E}_c)$ is given by

$$\frac{de_c}{dt} = F(e_c) \exp{\frac{-(U - \gamma\sigma)}{RT}} ,$$

after S. N. Zhurkov and T. N. Sanfirova (Temperaturnaya zavisimost' prochnosti chistykh metallov. Dokl. AN SSSR, 1955, t. 101. No. 2). It was found that the application of an oscillating stress causes an increase in the creep velocity in polymeric materials. The authors thank V. A. Volodchenkov, N. I. Gal'chin, Yu. S. Levshin, Yu. P. Maksimachev and V. V. Tikhomirov for their participation in the experiments. Orig. art. has: 4 graphs and 22 equations.

SUB CODE: OC/ SUBM DATE: 17Jun65/ ORIG REF: 013/ OTH REF: 005

Card 2/2

L 45276-66   EWT(m)/T/EWP(j)   IJP(c)   WW/RM

ACC NR: AP6023392   SOURCE CODE: UR/0374/66/000/003/0330/0336

AUTHOR: Buyanov, G. I.; Kasyuk, V. D.; Malinin, N. I.; Panshin, B. I.

ORG: none

TITLE: The creep of polymer materials subjected to cyclic loads

SOURCE: Mekhanika polimerov, no. 3, 1966, 330-336

TOPIC TAGS: creep, thermoplastic material, polymer

ABSTRACT: A method for constructing the creep curve of one-dimensional polymer material subjected to periodically applied alternating stresses is proposed. The creep curves obtained by tests under constant loads were used as basis for calculation. The mathematically derived curves agree within 10% with the experimental results, thus proving the applicability of the nonlinear heredity theory (viscoelasticity) expressed by M. I. Rozovskiy's equation. Experimental examination has shown that the proposed method may be used with sufficient accuracy for

UDC: 678.744.325:539.388.1

Card 1/2

ACC NR: AP6023392

predictions of creep behavior of thermoplastic polymers under periodically applied (cyclic) loads. Diagrams showing the constant-load creep curves obtained experimentally, and the cyclic-load creep curves obtained mathematically and experimentally are presented in the original article. Orig. art. has: 5 figures, and 11 formulas.

[KP]

SUB CODE: 20/   SUBM DATE: 02Nov65/   ORIG REF: 012/

Card 2/2

BIBIKOV, V.I., kand.tekhn.nauk; MALININ, N.K., inzh.; MATVIYENKO, N.I., student; ZUBAREV, V.V., student

Determination of the optimum operation of a hydroelectric power station with seasonal regulation using analog computers. Trudy MEI no.46:13-24 '63.
(MIRA 18:3)

1. Kafedra gidroenergetiki Moskovskogo ordena Lenina energeti-cheskogo instituta.

LANDAU, M.A.; MALININ, N.K.

Trimerization of chlorocyanogen. Zhur. fiz. khim. 39 no.3:779
Mr '65.

(MIRA 18:7)

Creep of Metals

One - dimensional problems of non-stationary creep. Inzh.sbor., 10, 1951.

KE'IEV, V. I. MAKUSHIN, V. M.,

Machinery - Construction

"Principles of modern methods of calculating durability of machine construction. Reviewed by Prof. A. A. Polov. Vest. mash. 31 no. 12, 1951.

Treasure Island Bibliographic Report

00000063

BOOK

Authors: PONOMAREV, S.D.; BIDERMAN, V.L.; LIKHAREV, K.K.; MAKUSHIN, V.M.; MALININ, N.N.; FEODS'YEV, V.I.

Call No.: AF58002

Full Title: FUNDAMENTALS OF MODERN METHODS FOR STRENGTH COMPUTATIONS IN MACHINE-BUILDING. (Computations of dynamic loads. Stability. Creep).

Transliterated Title: Osnovy sovremennykh metodov rascheta na prochnost' v mashinostroyenii. (Raschety pri dinamicheskoy nagruzke, Ustoychivost'. Polzuchest').

Publishing Data

Originating Agency: None.

Publishing House: (MASHGIZ), State Scientific and Technical Publishing House of Literature on Machine Building.

Date: 1952   No. pp.: 862   No. copies: 10,000

Editorial Staff

Editor: Prof. Ponomarev, D.D., Dr. Eng. Sci.

Technical Editor: None.

Editor-in-Chief: None.

Appraiser: None.

Others: Golovin, S. Ya., Eng., editor of literature on heavy machine building.

Text Data

Coverage: The three parts of this book discuss: 1) the strength computation of various machine elements under dynamic loads, 2) the stability computation of machine elements, 3) the creep computation of machine parts working at high temperatures. The first section describes the computation of the strength of moving machine elements, particularly

1/2

00000063

Full Title: FUNDAMENTALS OF MODERN METHODS FOR STRENGTH COMPUTATIONS IN MACHINE-BUILDING. (Computations of dynamic loads. Stability. Creep).

Call No.: AF58002

Text Data
  Coverage: (continued)
        discs and wheels; investigates questions of elastic vibration
        in connection with various practival problems (harmonic, non-
        harmonic, quasi-harmonic, non-linear and other types of vibration);
        and analyzes the strength of elements under variable loads. The
        second part concerns methods of computing the stability of rods and
        springs (twisted and compressed-coiled), or rings and flat shapes
        of curved thin strips, of the elements of thin-wall construction
        and non-symmetric profiles, of thin rectangular plates, and of rota-
        ting casings. The thrid section analyzes the questions of creep
        and relaxation of tension, permanent deformation, and aging of parts
        subjected to the action of high temperatures.

  Purpose: A textbook for design engineers in the field of machine building and
        students of the technical colleges and also for scientific workers.

Facilities: None.
No. Russian and Slavic References: 382 of total 409.
Available: Library of Congress.

"Computing a Rotating Disc Attached to a Shaft" an article in the book "Computing the Stability, Hardness and Creep of Elements in Machine Construction," Mashgiz, 1953. p. 5

"Calculating Round Symmetrically Loaded Discs of Variable Thickness." an article in the book "Computing the Stability, Hardness and Creep of Elements in Machine Construction," Mashgiz, 1953, p. 38.

"Steady Creep of Round Symmetrical Loaded Plates" an article in the book "Computing the Stability, Hardness and Creep of Elements in Machine Construction", Mashgiz, 1953, p. 221.

USSR

1606. Malinin, N. N. Calculation of a rotating, nonuniformly heated disk of variable thickness (in Russian), *Inzhener. Sbornik, Akad. Nauk SSSR 17*, 151-162, 1953.

Method is presented for calculating stresses, within the elastic limit, taking into account the radial variation of Young's modulus and Poisson's ratio with temperature. Disk is divided into annuli of constant thickness and constant material properties for each of which the solution is well known. In place of an explicit matching of stress and displacement boundary conditions at all annulus interfaces, author introduces auxiliary disk having bounding radii, temperature distribution, and loading of original disk, and thickness and material properties of innermost annulus. On cylindrical surfaces at radii corresponding to annulus junctions of stepped disk are applied fictitious radial loads of such magnitude that auxiliary disk has same radial displacement function as stepped disk. These boundary radial loads, and finally also the stresses, are expressed in terms of three parameters for which recurrence formulas are given. Numerical example is worked out. All bibliographical references are to Russian literature.

R. W. Grettor, USA

KALININ, N.N., dotsent, kandidat tekhnicheskikh nauk.

Calculation of rotating disks taper-fitted on shafts. [Trudy] MVTU no.26:
5-21 '53.
    (Disks, Rotating)   (MLRA 7:5)

MALININ, N.N., dotsent, kandidat tekhnicheskikh nauk.

Calculation of round and annular symmetrically loaded plates of varying thickness. [Trudy] MVTU no.26:38-63 '53.
(Blades)   (MLRA 7:5)

MALININ, N.N., dotsent, kandidat tekhnicheskikh nauk.

Continuous creep of round symmetrically loaded plates. [Trudy]MVTU
no.26:221-238 '53.
(Elastic plates and shells) (Creep of metals)   (MLRA 7:5)

MALININ, N.N.

Ponomarev, S.D.
Viderman, V.L.
Likharev, K.K.
Malinin, N.N.
Makushin, V.M.
Feodos'yev, V.I.

"Elements of Modern Methods
of Calculating Strength in
Machine Building"

Moscow Higher Technical School
imeni Bauman

MALININ, N. N.

U S S R .

2548. BENDING OF TURBINE BLADES. Malinin, N.N. (Izv. Akad. Nauk SSSR, Otdel. Tekh. Nauk (Bull. Acad. Sci., U.S.S.R., Sect. Tech. Sci.), Apr. 1954, 23-46). A method is derived for the calculation of steam and gas turbine blades for bending. A blade is assumed to be a three-dimensional slightly curved, naturally twisted beam of varying cross section, unevenly heated over its cross section and length, and revolving at constant angular velocity. Account is taken of the dependence of modulus of elasticity on temperature and the influence on the bending of a blade of centrifugal forces calculated for a blade in a deformed state. The problem of designing a turbine blade that does not bend is examined.

MALININ, N. N.

No. 37363--Netod povysh, eniya nesushehey sposobnosti pruzhin. V sb;
Povyshenit prochnosti detaley mashin. M.-L., 1949, S 136-45--Bibliogr:
9 Nazv.

So: Letopis' Zhurnel'nykk Statey, Vol. 7, 1049.

BABKIN, S.I., kandidat tekhnicheskikh nauk; BOGOMOLIN, R.S., professor,
doktor tekhnicheskikh nauk; BEYZEL'MAN, R.-., inzhener; BELYAYEV.
V.N., kandidat tekhnicheskikh nauk; BIRGER, I.A., kandidat tekhni-
cheskikh nauk; BOGUSLAVSKIY, P.Ye., kandidat tekhnicheskikh nauk;
BOROVICH, L.S., kandidat tekhnicheskikh nauk; VOL'MIR, A.S.,
professor, doktor tekhnicheskikh nauk; GONIKBERG, Yu.M., inzhener;
GORODETSKIY, I.Ye., professor, doktor tekhnicheskikh nauk; GORDON,
V.O., professor; DIMENTBERG, F.M., kandidat tekhnicheskikh nauk;
DOSCHATOV, V.V., inzhener, IVANOV, A.G., kandidat tekhnicheskikh
nauk; KIKASOSHVILI, R.S., professor; KODNER, D.S., kandidat tekhni-
cheskikh nauk; KOLOMIYTSEV, A.A., kandidat tekhnicheskikh nauk;
KRUTIKOV, I.P., kandidat tekhnicheskikh nauk; KUSHUL', M.Ya., kandi-
dat tekhnicheskikh nauk; LEVENSON, Ye.M., inzhener; MAZYRIN, I.V.,
inzhener; MELIKIN, N.M., kandidat tekhnicheskikh nauk; MARTYNOV, A.S...
kandidat tekhnicheskikh nauk; NIBERG, N.Ya., kandidat tekhnicheskikh
nauk; NIKOLAYEV, G.A., professor, doktor tekhnicheskikh nauk;
PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N.,
dotsent; PONOMAREV, S.D., professor, doktor tekhnicheskikh nauk;
PRIGOROVSKIY, N.I., professor, doktor tekhnicheskikh nauk; PRONIN,
B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.N., professor, doktor
tekhnicheskikh nauk; SATEL', E.A., professor, doktor tekhnicheskikh
nauk; SERENSEN, S.V.; SLOBODKIN, M.S., inzhener; SPITSYN, N.A.,
professor, doktor tekhnicheskikh nauk; STOLBIN, G.B., kandidat
tekhnicheskikh nauk; TAYTS, B.A., kandidat tekhnicheskikh nauk;
TETEL'BAUM, I.M., kandidat tekhnicheskikh nauk; UMANSKIY, A.A.,
professor, doktor tekhnicheskikh nauk; FEODOS'YEV, V.I., professor,
doktor tekhnicheskikh nauk;

<div align="center">(Continued on next card)</div>

BABKIN, S.I.--- (continued)   Card 2.
    KHAYT, D.M., kandidat tekhnicheskikh nauk; SYDIROV, V.Ya., candidat
    tekhnicheskikh nauk; SHRAYBER, M.U., inzhener, nauchnyy redaktor;
    SHEDROV, V.S., kandidat tekhnicheskikh nauk, nauchnyy redaktor;
    TSVETKOV, A.F., dotsent, nauchnyy redaktor; SLENNIKOV, S.I., inzhener,
    nauchnyy redaktor; MARKUS, M.Ya., inzhener, nauchnyy redaktor;
    KARGANOV, V.G., inzhener, nauchnyy redaktor; CHERKAS, N.S., doktor
    tekhnicheskikh nauk, professor, redaktor; SOKOLOV, T.F., tekhniche-
    skiy redaktor

    [Manual of machinery manufacture] Spravochnik mashinostroitelia;
    v trekh tomakh. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
    lit-ry. Vol.3. 1951 1098 p.   (MIRA 10:9)

    1. Deystvitel'nyy chlen Akademii nauk USSR (for Serensen)
        (Machinery)

MALININ, V. V.

ANDREYEV, L.Ye., kandidat tekhnicheskikh nauk; BIDERMAN, V.L., kandidat
tekhnicheskikh nauk; BOYARSHINOV, S.V., kandidat tekhnicheskikh
nauk; VOL'MIR, A.S., doktor tekhnicheskikh nauk; DIMENTBERG, F.M.
kandidat tekhnicheskikh nauk; ZASELATELEV, S.M., inzhener;
KINASOSHVILI, R.S., doktor tekhnicheskikh nauk, professor;
KOVALENKO, A.D.,; MAKUSHIN, V.M., kandidat tekhnicheskikh nauk
MALININ, N.N., kandidat tekhnicheskikh nauk; PONOMAREV, S.D.,
doktor tekhnicheskikh nauk; PRIGOROVSKIY, N.I., doktor tekhni-
cheskikh nauk; TETEL'BAUM, I.M., kandidat tekhnicheskikh nauk;
UMANSKIY, A.A., doktor tekhnicheskikh nauk, professor; FEODOS'YEV,
V.I., doktor tekhnicheskikh nauk; SERENSEN, S.V., redaktor;
TRAPEZIN, I.I., kandidat tekhnicheskikh nauk, redaktor; KARGANOV,
V.G., inzhener, redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor.

[Mechanical engineer's manual; in 6 volumes] Spravochnik mashino-
stroitelia; v shesti tomakh. Izd.2-e, ispr. i'dop. Moskva, Gos.
nauchno-tekhn.izd-vo mashinostroit. lit-ry, Vol.3, 1955. 563 p.
      (Mechanical engineering)   (MLRA 8:12)

AUTHOR: Malinin, N. N.

TITLE: The Design Calculation of an Unevenly-heated Rotating Disk of
            Variable Thickness in the General Case of Axisymmetric Deformation
            (Raschet vrashchayushchegosya neravnomerno nagretogo diska
            peremennoy tolshchiny v obshchem sluchaye osesimmetrichnoy
            deformatsii)

PERIODICAL: V sb.: Raschety na prochnost' v mashinostroyenii. Moscow,
            Mashgiz, 1955, pp 124-153

ABSTRACT: Ref. RZhMekh, 1954, abstract 4177

Card 1/1

MALININ, N.N.

Momentless states rotating slightly bent bars. [Trudy] MVTU no.31:
29-34 '55.   (MIRA 8:5)
          (Blades) (Moments of inertia)

MALININ, N.N.

Design of non-uniformly heated thick-walled pipes. [Trudy] MVTU
no.31:46-62 '55.
(Pipe) (Turbomachines) (Thermodynamics)   (MIRA 8:5)

MALININ, N.N., kandidat tekhnicheskikh nauk, dotsent.

Calculation of a rotating, irregularly heated disk of varying thickness in the general case of equiaxial strain. [Trudy] MVTU no.46:124-153 '55.   (MLRA 9:4)
(Disks, Rotating)

PONOMAREV, S.D., doktor tekhnicheskikh nauk, professor; BIDERMAN, V.L.;
    LIKHAREV, K.K.; MAKUSHIN, V.M.; MALININ, N.N.; FEODOS'YEV, V.I.;
    POPOVA, S.M., tekhnicheskiy redaktor; MATVEYEVA, Ye.N., tekhniche-
    skiy redaktor

[Calculations of the strength of materials in machine manufacture]
Raschety na prochnost' v mashinostroenii. Pod red. S.D.Ponomareva.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. Vol. 1.
[Theoretical principles and experimental methods. Calculations for
structural rod elements under static load] Teoreticheskie osnovy i
eksperimental'nye metody. Raschety sterzhnevykh elementov konstruk-
tsii pri staticheskoi nagruzke. 1956. 884 p.   (MLRA 10:3)
        (Strength of materials)   (Elasticity)

SOV/124-58-3-3277D

AUTHOR: Malinin, N. N.

TITLE: Strength and Creep Calculation of Rotary Blades and Discs of
             Turbines (Raschet na prochnost' i polzuchest' rabochikh
             lopatok i diskov turbomashin)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree
             of Doctor of Technical Sciences, presented to the Mosk. vyssh.
             tekhn. uch-shche im. Baumana (Moscow Higher Technical School
             im. Bauman), Moscow, 1957

ASSOCIATION: Mosk. vyssh. tekhn. uch-shche im. Baumana (Moscow Higher
             Technical School im. Bauman), Moscow.

Card 1/1

24(0); 25(2)   PHASE I BOOK EXPLOITATION   SOV/2037

Moscow. Vyssheye tekhnicheskoye uchilishche imeni N.E. Baumana

Raschety na prochnost' v mashinostroyenii; [sbornik] Design for
    Strength in Mechanical Engineering; Collection of Articles)
    Moscow, Mashgiz, 1958. 244 p. (Series: Its: [Trudy] 89)
    3,300 copies printed.

Ed.: G.A. Nikolayev, Doctor of Technical Sciences, Professor,
    Honored Worker in Science and Technology; Ed. of Publishing House:
    N.P. Chernysheva; Tech. Ed.: B.I. Model'; Managing Ed. for
    Literature on Heavy Machine Building (Mashgiz): S.Ya. Golovin,
    Engineer.

PURPOSE: This collection of articles is intended for engineering staffs
    in the machine-building industry and may be useful to scientific
    workers and senior students of mechanical engineering vtuzes.

Card 1/8

Design for Strength in Mechanical (Cont.)   SOV/2037

COVERAGE: The articles cover the graphoanalytical method of
    designing circular symmetrically loaded reinforced plates,
    methods of designing rotating heated disks for transverse bending,
    and calculation of preloaded belleville springs. Also discussed
    are differential equations for deformation of rubber-cord shells
    of rotation, the theory of flexure of rubber-cord hose, and
    stability problems of elastic cylindrical shells. Results of
    experimental investigations of strength and ductility of
    constructional steels and other materials are presented. Several
    articles are devoted to problems of vibrations in machinery.
    There are 78 references; 71 Soviet, 4 German, 2 English, and
    1 French.

TABLE OF CONTENTS:

Card 2/8

Design for Strength in Mechanical (Cont.)   SOV/2037

The method of design discussed is claimed to be less time consuming and simpler than the existing analytical methods. It allows for easier evaluation of the stiffening effect of shape and location of the ring rib.

Malinin, N.N., Doctor of Technical Sciences, Docent. Radial   and
Transverse Bending of Disks   43

The author gives an approximate method for determining stress relieving coefficients in transverse bending (symmetrical to the axis) of a rotating, nonuniformly heated disk of variable thickness. "Radial   bending" means the effect of radial   forces, (e.g., centrifugal) analogous to the effect of axial tension forces acting on laterally loaded beams. This method allows for quick evaluation of the stress relieving effect due to rotation of the disk while taking into account changes in the elastic properties of the material due to temperature.

Card 3/8

Design for Strength in Mechanical (Cont.)   SOV/2037

Sokolov, S.V., Candidate of Technical Sciences. Design of
Preloaded Belleville Springs and Experimental Investigations
of Springs   63
    A method of designing plastically preloaded belleville springs
    is presented. Change of the disk and residual stresses
    equalizing nominal stresses in operation are discussed.
    (This fact causes an increase of carrying capacity of the
    springs). The theory was experimentally checked.

Alfutov, N.A., Candidate of Technical Sciences; V.F. Sokolov,
Engineer. Determining the Lower Critical Pressure for an Elastic
Cylindrical Shell and Behavior of the Shell Following Buckling   95
    Solution of the problem is claimed to be new and simple.
    Examples of design are presented. A comparison is made with
    results obtained by methods of other authors.

Lapin, A.A., Candidate of Technical Sciences, Docent. Investi-
gation of Flexure of Rubber-cord Cylindrical Shells   111
    This article presents results of work done in 1950 with
    V.L. Biderman at the Nauchno-issledovatol'skiy institut
    shinnoy promyshlennosti (Scientific Research Institute
    for the Tire Industry). The possible forms of elastic

Card 4/8

Design for Strength in Mechanical (Cont.)   SOV/2037

    equilibrium of a rubber-cord flexible hose under internal pressure are analyzed.

Biderman, V.L., Candidate of Technical Sciences. Differential
Equations for Deformation of Rubber-cord Shells of Rotation   119
    The article investigates general cases of deformation in
rubber hoses, tires, shock absorbers, etc., subjected to
internal pressure. A method is presented for analyzing a
cylindrical longitudinally fastened shell under arbitrary
periodic loading.

Sapozhkov, N.M., Engineer. Investigation of Optimum Dimensional
Proportions in T and I Sections   147
    The author finds conditions for most rational configuration
of T, I, and I cross sections for castings or weldments
designed for bending.

Card 5/8

Design for Strength in Mechanical (Cont.)   SOV/2037

Likharev, K.K., Candidate of Technical Sciences, Docent.
Comparison of Characteristics of Materials Under Uniaxial
Tension and Compression   168
    The article is based on experimental data obtained at the
    Department of "Strength of Materials" at MVTU (Moscow
    Higher Technical School imeni N.Ye. Bauman). The author
    points out the necessity of establishing a method for complete
    testing of materials in tension and compression in order to
    correct some not too well-founded views on the characteristics
    of materials. Many stress-strain diagrams and tables showing
    the mechanical properties of several materials are included.

Konyushko, Z.M., Candidate of Technical Sciences, Docent.
Construction of Stress-Strain Diagrams for Shear of Brittle
Materials Based on Results of Tension and Compression Tests   197
    A method is described for obtaining stress-strain diagrams
    for shear from stress-strain diagrams for tension and
    compression of materials with different characteristics in
    tension and compression. Results of experiments are compared
    with theoretical conclusions.

Card 6/8

Design for Strength in Mechanical (Cont.)   SOV/2037

Blinnik, S.I., Candidate of Technical Sciences, Docent.
Calculation of Free Vibrations in a Four-column Press   210
   A method for determining the fundamental natural frequency
   of a four-column press, allowing for elasticity of the
   foundation, is discussed. The formulas derived can also be
   used for cases of very rigid foundations by putting the
   coefficient of soil compressibility equal to zero.

Kolesnikov, K.S., Candidate of Technical Sciences, Docent.
Deflections of Beams in the Case of Vibration of Their Supports   226
   A method is presented for determining the deflection of
   variable cross-section beams subjected to forced vibrations
   arising from the periodic motion of supports.

Svetlitskiy, V.A., Engineer. Determination of Basic Premises for
Forced Motion   234
   The paper presents a method for checking whether the forced
   motion analyzed is in accordance with the initial assumptions
   used for the theoretical solution. The possibility of

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Design for Strength in Mechanical (Cont.)   SOV/2037

    deviation of existing conditions from initial assumptions
    is discussed.

AVAILABLE: Library of Congress

                                                    GO/jmr
                                                    8-25-59

Card 8/8

MALUSHIN, M.N.

14(10)

PHASE I BOOK EXPLOITATION   SOV/1577

Raschety na prochnost'; teoreticheskiye i eksperimental'nyye
issledovaniya prochnosti mashinostroitel'nykh konstruktsiy. Sbornik statey,
vyp. 3. (Calculations for Strength; Theoretical and Experimental Research on
the Strength of Elements Used in Machine Construction. Collection of Articles,
Vol. 3) Moscow, Mashgiz, 1958. 355 p. 4,000 copies printed.

Ed.: Tarabasov, N.D., Doctor of Technical Sciences; Editorial Board:
Tikhomirov, Ye.N., Honored Worker of the RSFSR in Science and Technology,
Professor (Chairman); Serensen, S.V., Active Member, Ukrainian SSR Academy of
Sciences, Doctor of Technical Sciences, Professor; Ginzburg, G.S., Doctor of
Technical Sciences, Professor; Ponomarev, S.D., Doctor of Technical Sciences,
Professor; Sokolov, S.N., Doctor of Technical Sciences, Professor; Tarabasov,N.D.,
Doctor of Technical Sciences, Professor; and Makushin, V.M., Candidate of Tech-
nical Sciences, Docent (Secretary); Tech. Ed.: Tikhonov, A.Ya.; Managing Ed.
for Literature on General Technical and Transport Machine Building (Mashgiz);
Ponomareva, K.A., Engineer.

PURPOSE: This collection of articles is intended for engineers and designers
working in the field of machine construction, for research fellows, and
scientific workers.

COVERAGE: The collection is an inter-vuz publication of transactions concerning
strength problems. It contains original reports on calculations for a number
of structures used in machine building and their components. Considerations
are given to calculations of the columns of hydraulic presses, the nonlinear
theory of spiral springs, problems in the calculation of rubber components,
theoretical and experimental investigations of circular plates of constant
and variable stiffness, investigations of conical shells and of stressed
assemblies of machine components. Calculations in the elasto-plastic domain
are represented by an investigation of forced fits of discs and the creep of
operating turbine blades. Problems of contact in the case of impact and the
stability theory of elastic systems "in general terms" are considered. There
are 114 references, 99 of which are Soviet, 9 English, 4 German, 1 French,
1 Polish.

Makhonina, T.M., Engineer. Analysis of Forced Fits of Discs Beyond
the Elastic Limit   237

Malinin, N.N., Doctor of Technical Sciences, Docent. Analysis of the
Creep of Operating Turbine Blades   252

     PART III. DYNAMIC CALCULATIONS AND CALCULATIONS FOR STABILITY

Tikhomirov, Ye.N., Honored Scientific and Technical Worker of the Russian
Socialist Federated Soviet Republic, Professor. Contact Problem ...

............, Doctor of Technical Sciences, Professor. Nonlinear

SOV/2397

PHASE I BOOK EXPLOITATION

24(6)

Ponomarev, S.D., V.L. Biderman, K.K. Likharev, V.M. Makushin,
N.N. Malinin, and V.L. Feodos'yev

Raschety na prochnost' v machinostroyenii. t. II: Nekotoryye zadachi
prikladnoy teorii uprugosti. Raschety za predelami uprugosti.
Raschety na polzuchest' (Design for Strength in Machinery Construction. Vol 2:
Some Problems in the Applied Theory of Elasticity. Calculation
Beyond Elastic Limits. Design for Creep) Moscow, Mashgiz, 1958.
974 p. Errata slip inserted. 15,000 copies printed.

Ed.: S.D. Ponomarev, Doctor of Technical Sciences, Professor; Ed.
of Publishing House: N.P. Chernysheva; Tech. Ed.: B.N. Model';
Managing Ed. for Literature of Heavy Machine Building (Mashgiz):
S.Ya. Golovin, Engineer.

PURPOSE: The book is intended for engineers, designers, and process
engineers in the field of machinery design and construction. It
may also be useful to students, aspirants, and scientific workers.

Card 1/11

Design for Strength in Machinery Construction (Cont.)   SOV/2397

COVERAGE: This book deals with some problems of the applied theory
of elasticity and the calculation of plastic deformation and creep.
Design methods for circular and rectangular plates, shells of
rotation, and thick-walled tubes are presented. The theory of
contact stresses, the design of structural elements made of rubber
and rubberized cord, calculations of elastoplastic strains, and
calculations of steady and unsteady states of creep are discussed.
No personalities are mentioned. References follow each chapter.

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ID-6000

S/124/61/000/009/029/058
D234/D303

AUTHOR: Malinin, N.N.

TITLE: Radial-transverse bending of discs

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 9, 1961, 8, abstract 9 V69 (V sb. Raschety na prochnost v mashinostr. (MVTU, 89), M., 1958, 43-62)

TEXT: An approximate method is given of determining unloading coefficients at the axially symmetrical radial-transverse bending of a rotating, inhomogeneously heated disc of variable thickness. The unloading coefficients are understood as the ratios of deflections determined without using the principle of conservation of initial dimensions, and the deflections determined with the use of this principle. Variation of elastic characteristics with the radius, due to temperature variation, is taken into account; variation of the characteristics with thickness is neglected. /Abstracter's note: Complete translation/

Card 1/1

MALININ, N.N., dots., doktor tekhn.nauk

Proof stress analysis of disks. Nauch.dokl.vys.shkoly;mash.i
prib. no.1:49-61 ' 58.   (MIRA 12:1)

1. Predstavleno kafedroy "Soprotivleniye materialov" Moskov-
skogo vysshego tekhnicheskogo uchilishcha imeni N.E. Baumana.
                (Steam--Turbine disks)

MALININ, N.N. (p.5)

24-2-27/28

AUTHORS: Grigorenko, Ya. M. and Isakhanov, G.V.

TITLE: Scientific Conference on the strength of elements of turbo-machinery at elevated temperatures. (Nauchnoye soveshchaniye po voprosam prochnosti elementov turbomashin pri vysokikh temperaturakh).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, No.2, pp. 165-167 (USSR).

ABSTRACT: A scientific conference was held in Kiev between September 28 and October 2, 1957 on problems of strength of elements of turbo-machinery at elevated temperatures which was convened by the Institute of Metallo-Ceramics and Special Alloys (Institut Metallokeramiki i Spetssplavov), the Institute of Structural Mechanics (Institut Stroitel'noy Mekhaniki) and the Institute of Thermal Power (Institut Teploenergetiki, Akademii Nauk Ukrainskoy SSR) of the Ac.Sc. Ukrainian SSR. About 300 people participated representing scientific and establishments and works of Moscow, Leningrad, Kiev, Kharkov, Minsk, Kuybyshev, etc. In his opening speech, Corresponding Member of the Ac.Sc. Ukraine I.V. Frenn pointed out the importance of the problem of high temperature strength of components of turbo-machinery.

Card 1/9

Scientific Conference on the strength of elements of turbo-... machinery at elevated temperatures.

A number of papers were read relating to the theory of heat conductivity and thermo-elasticity. In his paper "Investigation of the temperature fields in turbine rotors" Ye. P. Dyben reported on the theoretical and experimental investigations of the steady state and the non-steady state thermo-conductivity in turbine rotors of various designs including investigations on concrete specimens of rotors produced by the Kirov and Neva Works, the "Ekonomayzer" Works and others, carried out at the Institute of Thermal Power, Ukrainian Ac.Sc. In studying the temperature fields they used the method of laboratory investigation of non-steady state thermal conductivity by means of high frequency heating, the method of electro-thermal analogy by means of "ЭРДА" equipment etc. They obtained a solution of the problem of non-steady state thermal conductivity of a hollow cylinder of finite length with a relatively general law of the changes of the temperature and the heat transfer coefficients. The Institute, jointly with the Experimental Gas Turbine Construction Works, developed a method of Card 2/9 cooling the discs by blowing cooling air through the

Scientific ... of ... of ... of Machinery ...

Scientific conference on the strength of elements of turbo-   24-2-27/28
machinery at elevated temperatures.

    system in which the following elements operate jointly:
discs, shells and ring-shaped rods.
In his paper "Certain Methods of Solving the Axis-
Symmetrical Problem of the Theory of Elasticity Taking
Into Consideration Mass Forces and the Temperature"
E. S. Umanskiy elucidated an approximate method of
calculation of the stress state.
The paper of V. I. Danilovskiy (Mechanics Institute,
Ac.Sc. USSR) was devoted to calculating the temperature
fields in thin shells.
The paper of A. I. Veynik (Power Institute, Ac.Sc. Byelo-
Russia) was devoted to an approximate method of solving
the problem of thermo-conductivity in solid bodies.
The paper "T

...) was devoted to an approximate method of solving the problem of thermo-conductivity in solid bodies.

The paper "Temperature Stresses in Thin Walled Structures" by I. A. Birger and B. F. Shor dealt with the investigations carried out by TsIAM on the thermal stresses in rods, taking into consideration variable elasticity parameters and also with the stress state of thin walled naturally twisted rods which are subjected to the effect of external forces and non-uniform heating.

In the paper "Temperature Stresses in Elements of Gas Turbines Under Conditions of Non-steady State Thermal

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Scientific conference on the strength of elements of turbo-
machinery at elevated temperatures.

24-2-27/28

Regimes" A. G. Kostyuk (MEI) considered the method of
approximate solution of the problem of the non-steady
state temperature field in which the component is
considered as a semi-infinite body during the initial
instant of heating.

...neering and Automation, ...gan (Institute of Mechanical...
and of L. G. Fridman (Kuybyshev) dealt with investigations
of the temperature stresses in thin walled structures
particularly in bodies of aviation engines.
P. S. Kuratov (TsKTI) and Ye. M. Molchanov (VTI)
reported on complex investigations of the temperature
fields, the stress state and the thermal fatigue of the
rotors of definite turbines.
In his paper "Experimental Investigation of the Temperature
Stresses in Fully Forged Rotors" G. A. Rayer reported on
experimental investigations carried out at the Neva

Card 5/9

Engineer I. N. Shibalov conveyed information on the tests of equipment for heating individual elements of the BT-25-4 turbine during starting.

The second part of the conference was devoted to problems of the constructional strength of elements on turbo-machinery at elevated temperatures. In his paper "Work of the Institute of Metalloceramics and Special Alloys, Ukrainian Ac.Sc. in the Field of High Temperature Strength" G. S. Pisarenko described certain results obtained by the team of the Strength Division of the Institute as regards the development of new methods and test equipment for studying the mechanical characteristics of high temperature materials at temperatures up to 1500°C, for high temperature static and dynamic tests of metalloceramic materials and of components and also certain results of investigations relating to disclosure of

components and also certain results of investigations relating to dissipation of energy in heat resistant materials at normal and at elevated temperatures.

Card 6/9 The paper of G. S. Brokhin, A. B. Platov and A.I.Baranov

24-2-27/28

Scientific Conference on the strength of elements of turbo-machinery at elevated temperatures.

"Technique of High Temperature Tests Applied by VNIITS" and that of Ye. N. German (VIAM) "On Certain New Methods of Testing High Temperature Metalloceramic Materials", and the paper of V. Z. Tseytlin, M. A. Filatova, A.V. Ryabchenkov and A. I. Maksimov (TsNIITMASh) "Long Duration and Fatigue Strength in Air and in Gaseous Media of a Nickel-Chromium Alloy Used for Transportation (Gas) Turbines" were all devoted to the study of high temperature materials.
The results of natural investigations of elements of turbo-machinery were dealt with in papers presented by the personnel of TsKTI imeni Polzunov.
N. N. Kalinovskiy (NII) dealt with the results of investigation of the carrying capacity and the long duration strength of specimens of gas turbine discs of a new design and a complicated configuration under conditions similar to the operating conditions. The author described the features of the heating system and of the damping equipment which ensures the possibility of long duration tests of natural discs by means of racing at a high temperature until disruption occurs and he also
Card 7/9 considered the deformations of a disc in the case of long

26.2122

AUTHOR: Malinin, N.N.

TITLE: The Creep Calculation of the Operating Blades of Turbines

PERIODICAL: V sb.: Raschety na prochnost'. No. 3, Moscow, Mashgiz, 1958, pp. 252-286

TEXT: The blade is considered to be a three-dimensional, weakly bent, naturally twisted rod of variable cross section, uniformly heated over its cross section. The calculation is performed for stretching and bending with the neutral line beyond the cross section. In the conditions of the stationary creep and monoaxial stretch, the dependence is assumed of the creep strain ε_{zp} on the tension σ_z and the function of temperature and time Ω in the form $\varepsilon_{zp} = c_z^n \Omega$. For a variable temperature, Ω is assumed to be the product of the temperature function T and the time function Ω_1: $\Omega = T \Omega_1$. On the basis of the hypothesis on the plane cross sections, the correlation is obtained:

The Creep Calculation of the Operating Blades of Turbines

$$\sigma_z = \frac{\varepsilon_{zps}^{1/n}}{\Omega^{1/n}} (1 + \delta)^{1/n},$$

where ε_{zps} is the deformation in the gravity center of the cross section, δ is the ratio of the plastic bending deformation to the plastic stretch deformation in the gravity center. Under the assumption that δ is small and independent of the time, two cases are considered:

$$(1 + \delta)^{1/n} = 1 + \delta/n \tag{1}$$

$$(1 + \delta)^{1/n} = 1 + \frac{\delta}{n} - \frac{n-1}{2n^2} \delta^2. \tag{2}$$

For both cases formulae are presented for the tension, bending moments, and dis-
placements, and the scheme of the course of a numerical computation is presented.
An example is added for the creep calculation of the operating blade of a gas
turbine for case (1). The calculation results are compiled in tables and illustrat-
ed by graphs. In conclusion, the P.L. Chebyshev method is presented for the cal-
culation of the monoaxial moments of third order of area, the determination of which
is necessary for the calculation of case (2).   O.V. Sosnin

Translator's note: This is the full translation of the original Russian abstract.
Card 2/2

LIKHAREV, K.K.; MALININ, N.N.

Three-dimensional diagram for fatigue strength. Nauch.dokl.vys. shkoly; mash.i prib. no.4:106-110   '58.   (MIRA 12:5)

1. Stat'ya predstavlena kafedroy "Soprotivleniye materialov" Moskovskogo vysshego tekhnicheskogo uchilishcha im. Baumana.
(Metals--Fatigue)

MALININ, N.N., doktor tekhn.nauk, dotsent

Radial and lateral bending of disks. [Trudy] MVTU no.89:43-62 '58.
(MIRA 12:7)
(Disks, Rotating)

PONOMAREV, S.D., prof.; TIKHOMIROV, Ye.N., prof.; SERENSEN, S.V., prof.;
     MALININ, N.N., prof.; POPOV, A.A., prof.; KRYUKOVSKIY, S.S., prof.;
     SOKOLOV, S.N., prof.
     [Program of the course "Strength of materials" for departments of
     mechaniced engineering in technical institutes] Programma kursa
     "Soprotivlenie materialov" dlia mashinostroitel'nykh i mekhaniche-
     skikh spetsial'nostei vysshikh tekhnicheskikh uchebnykh zavedenii.
     Moskva, Izd-vo "Vyshaia shkola," 1959. 15 p.   (MIRA 15:1)

     1. Russia (1923- U.S.S.R.) Ministerstvo vysshego i srednego spe-
     tsial'nogo obrazovaniya.
                (Strength of materials—Study and teaching)

MALININ, N. N.

Raschety na prochnost'; teoreticheskiye i eksperimental'nyye issledovaniya prochnosti mashinostroitel'nykh konstruktsiy; sbornik statey Vyp. 4 (Strength Calculations: Theoretical and Experimental Studies of the Strength of Machine Structural Elements: Collection of Articles, No. 4) Moscow, Mashgiz, 1959. 393 p. Errata slip inserted. 3,600 copies printed.

Editorial Commission: Ya. B. Tkhomirov (Chairman) Honored Worker in Science and Technology of the RSFSR, Professor, S. V. Serensen, Corresponding Member, Ukrainian SSR Academy of Sciences, Doctor of Technical Sciences, Professor, G. S. Glushkov, Doctor of Technical Sciences, Professor, S.D. Ponomarev, Doctor of Technical Sciences, Professor, S. M. Sokolov, Doctor of Technical Sciences, Professor V. M. Makushin (Secretary) Candidate of Technical Sciences, Docent; Ed.: N. D. Tarabasov, Doctor of Technical Sciences, Managing Ed. for Literature on General Technical and Transport Machine Building: V. I. Kubarev, Engineer; Ed. of Publishing House: R. M. Korableva, and A. G. Nikitin; Tech. Ed.: Z. I. Chernova, and V. D. El'kind.

PURPOSE: This book is intended for engineers and designers/machine-building as well as for engineers of other specialties working on stress analysis. It may be used as a text by students in the field.

COVERAGE: This book contains original stress analysis calculations made on machinery elements and parts. Analyses are made of coiled springs with an arbitrary helix angle, bending of turbine discs, strain state of flat pistons, and a circular cylinder. A number of original applications of general methods of the theory of elasticity to the study of lateral bending and torsion of rods is given. In the calculations on stability, new methods of determining critical forces for compressed rods and analyzing the stability of circular and ring-shaped plates are applied. Calculations for dynamic loadings are represented by a study of the analysis of various tions of the indicators of devices during vibration. References accompany individual articles.

PART I.   STRESS AND RIGIDITY ANALYSIS OF PARTS

Ponomarev, S.D. (Deceased). Bending Analysis of Coiled Springs of Circular Cross-Section With an Arbitrary Helix Angle

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3. Deformation hypothesis   3
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5. Bending of a circular cylinder with coaxial polyhedral cavity of force applied at the free end   138
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PERIA- ENEDI, N. M.

807/3416

PHASE I BOOK EXPLOITATION

Akademiya nauk SSSR. Institut mashinovedeniya.

Voprosy prochnosti materialov i konstruktsiy (Problems of Strength of Materials and Structures) Moscow, 1959. 399 p. Errata slip inserted. 3,200 copies printed.

Resp. Ed.: D. N. Reshetov, Professor, Doctor of Technical Sciences; Ed. of Publishing House: G. B. Gornakher; Tech. Ed.: S. T. Gukin.

PURPOSE: This book is intended for engineers and scientists concerned with the problems of the strength of materials and construction.

COVERAGE: The book contains 28 articles on the strength of materials in general and of machine construction in particular. This collection was prepared under the direction of the Institute of Mechanical Engineering of the AS USSR in honor of Sergey Vladimirovich Serensen, one of the founders and directors of the national school of strength of materials, who recently completed 30 years of scientific activity. The preface gives a short sketch of his life and professional activities. The collection is divided into two parts. The first part contains 13 articles on general problems of strength and the strength of machine construction material. The second part contains 15 articles on dynamics and calculation of strength and rigidity. There are references at the end of each article.

PART II. DYNAMICS AND CALCULATION OF STRENGTH AND RIGIDITY

Konenenko, V. O. Natural Vibrations of a Nonlinear System with Periodically Variable Parameters   177

Bolotin, V. V. Problem of the Stability of a Plate in a Compressible Gas Flow   194

Dimentberg, F. M., and Cy[...], A. A. Deflecting Force in a Flexible Beam Caused by the Forces of Unbalance   205

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Malinin, N. N. Calculation of Creep of Rotating Nonuniformly Heated Disks of Varying Thickness   268

Feodin, Yevgen. Practice of Calculating Parameters of Rotating Discs During Plastic-Elastic Deformation   288

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Levkin, A. S. Study of the Distribution of Stresses in Fir Tree Type Roots of Turbine Blades in Tension and Bending   334

Giatsintov, Ye. V. Study of the Distribution of Forces in Fir Tree Type Root Joints   360

Reshetov, D. N., and Z. M. Levina. Calculation on Contact Rigidity in Machine Construction   375

Tomlenov, A. D. One Characteristic of a Slip Line   397

AVAILABLE: Library of Congress

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MALININ, N.N.

PHASE I BOOK EXPLOITATION   SOV/3423

Ponomarev, Sergey Dmitriyevich, Honored Worker in Science and Technology, Professor, Doctor of Technical Sciences, Vladimir Mikhaylovich Makushin, Nikolay Nikolayevich Malinin, and Vsevolod Ivanovich Feodos'yev

Raschety na prochnost' v mashinostroyenii, tom 3: Inertsionnyye nagruzki. Kolebaniya i udarnyye nagruzki. Vynoslivost'. Ustoychivost' (Design for Strength in Machinery Construction, Vol 3: Inertial Loads. Vibrations and Impact Loads. Endurance. Stability) Moscow, Mashgiz, 1959. 1118 p. Errata slip inserted. 12,000 copies printed.

Ed. of Publishing House: N. P. Chernysheva; Tech. Ed.: B. I. Model'; Managing Ed. for Literature on Heavy Machine Building: S. Ya. Golovin, Engineer; Ed.: Sergey Dmitriyevich Ponomarev, Honored Worker in Science and Technology, Professor, Doctor of Technical Sciences.

PURPOSE: The book is intended for design and production engineers in machine-building enterprises. It will be of interest to students of engineering design.

Card 1/15

Strength Calculations in Mechanical Engineering (Cont.)   SOV/3423

COVERAGE: The book covers methods of calculation for stability, stress, creep, fatigue, etc. Particular attention is paid to strength calculations of moving machine parts, such as turbine buckets and discs, with reference to stress and creep data. Other problems treated include: analysis of various types of vibrations; calculations for dynamic load varying with time; stress concentration and fatigue failures; stress distribution in bars, plates, shells, etc.; stress coefficients for rotating discs; and behavior of material under conditions of stress. S. D. Ponomarev reviewed the entire book and wrote Chapter I and section 5 of Chapter III. Chapter II and the remainder of Chapter III were written by N. N. Malinin. Chapter IV - X were written by V. L. Biderman. Chapter XI was compiled by K. K. Likharev and N. N. Malinin. Chapters XII - XVI were written by V. M. Makushin, Chapter XVII - by V. I. Feodos'yev, and the Appendix by K. K. Likharev. There are 857 references: 712 Soviet, 90 English, 54 German, and 1 French.

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S/124/60/000/010/002/004
A005/A001

26.2120

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. ??, p. 159, # ????

AUTHOR: Malinin, N.N.

TITLE: Creep Calculation of Revolving Nonuniformly Heated Disks of Variable
Thickness

PERIODICAL: V sb.: Vopr. prochnosti materialov i konstruktsiy, Moscow, AN SSSR,
1959, pp. 268-287

TEXT: The variant of the successive approximation method presented earlier
(Ponomarev, S.D., Biderman, V.L., Likharev, K.K., Makushin, V.M., Malinin, N.N.,
Feodos'yev, V.I., Osnovy sovremennykh metodov rascheta na prochnost' v mashino-
stroyenii. T. II. Mashgiz, 1952) is extended to the case of the steady creep of a
nonuniformly heated disk. The connection between the components of creep strain
and stress is assumed to be formulated as the equations of the theory of small
elastic-plastic deformations. The intensities of stresses and creep strains are
interconnected by the power correlation

$$\varepsilon_{ip} = 6_i^n \, \Omega$$

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S/124/6C/000/010/002/004
A005/A001

Creep Calculation of Revolving Nonuniformly heated Disks of Variable Thickness.

where n is a function of temperature, and Ω is a function of temperature and time. Correspondingly, the formulation of the joint condition changes, which was presented in the cited work. The improvement of the convergence of the approximation process is noted which can be attained in this way. The case is considered when the external load is applied also to the lateral surface of the disk as it takes place in radial turbomachines. The calculations are exemplified.

V.I. Rozenblyum

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

MALININ, N.N., doktor tekhn.nauk prof.

Bending of turbomachine disks. Rasch.na prochn.   no.4:47-95
'59.   (MIRA 13:4)

            (Gas-turbine disks)

MALININ, N.N., doktor tekhn. nauk.

Regularities in metal creep and analysis of creep in machine parts.
Vest. mash. 39 no.1:6-14 Ja '59.   (MIRA 12:1)
(Creep of metals)

KONYUSHKO, Zoya Maksimovna; dotsent, kand.tekhn.nauk; MALININ N.N.,
prof., doktor tekhn.nauk, red.

[Designing structural elements for strength and rigidity with
consideration given to plastic deformations] Raschety na prochnost'
i zhestkost' elementov konstruktsii s uchetom plasticheskikh de-
formatsii. Pod red. N.N.Malinina. Moskva, Mosk.vysshee tekhn.
uchilishche, Kafedra soprotivleniia materialov, 1960.   175 p.
(MIRA 14:4)

(Strength of materials)

S/572/60/000/006/004/018
D224/D304

AUTHOR: Malinin, N. N., Doctor of Technical Sciences, Professor

TITLE: Plastic deformations and creep of forged rotors of tur-
             bines

SOURCE: Raschety na prochnost'; teoreticheskiye i eksperimental'
             nyye issledovaniya prochnosti mashinostroitel'nykh kon-
             struktsiy. Sbornik statey. No. 6, Moscow, 1960, 80-85

TEXT: The author considers the problem of deformation of a rotat-
ing thick walled cylinder irregularly heated along its radius.
The design is based on nonlinear relations between stresses and de-
formations given in form of graphs for different temperatures. It
is stated that investigation of creep according to Yu. N. Rabot-
nov's hypothesis of aging (Ref. 3: Raschet detaley mashin na pol-
zuchest' (Design of Machine Parts for Creep), Izv. AN SSSR, otd.
tekhn. nauk, no. 6, 1948) are reduced to such design. It is sup-
posed that the axial deformation is constant. The author deduces
expressions for the stresses and the constants of integration. To

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Plastic deformations and ...

S/572/60/000/006/004/018
D224/D304

determine the latter from the expressions one can use the method of successive approximations. It is stated that the third approxima- tion gives a good degree of accuracy. A numerical example is given. There are 2 figures, 1 table and 3 Soviet-bloc references.

Card 2/2

PHASE I BOOK EXPLOITATION   SOV/6225

Malinin, Nikolay Nikolayevich

Prochnost' turbomashin (Strength of Turbine Engines).   Moscow, Mashgiz, 1962.
291 p. . Errata slip inserted.   8000 copies printed.

Reviewers: Chairman: A. V. Shcheglyayev, Corresponding Member, Academy
of Sciences USSR, Professor, and I. A. Birger, Doctor of Technical Sciences,
Professor; Ed.: S. D. Ponomarev, Doctor of Technical Sciences, Professor;
Ed. of Publishing House: V. V. Bystritkaya; Tech. Ed.: A. F. Uvarova;
Managing Ed. for Literature on General Engineering: A. P. Kozlov, Engineer.

PURPOSE: This book is intended for students of machine building at technical insti-
tutions of higher education. It may also be useful to engineering-technical workers
of related specialties.

COVERAGE: The book deals with materials used in turbomachine construction
and describes their mechanical properties under stresses of short and long duration.

Card 1/8 2

Strength of Turbine Engines   SOV/6225

In particular the book gives strength calculations of blades, discs, drums, casings, and diaphragms; calculation of vibration in blades, discs, and shafts; and creep calculation in blades and discs. The author thanks Professor S. D. Ponomarev, Doctor of Technical Sciences, for his editorial assistance and technical advice. There are 31 references: 30 Soviet and 1 German.

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AGAMIROV, V.L., kand. tekhn. nauk; AMEL'YANCHIK, A.V., inzh.;
ANDREYEVA, L.Ye., kand. tekhn. nauk; BIDERMAN, V.L., doktor
tekhn. nauk; BOYARSHINOV, S.V., kand. tekhn. nauk; VOL'MIR,
A.S., prof., doktor tekhn. nauk; DIMENTBERG, F.M., doktor
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kand. tekhn. nauk; MASLOV, G.S., kand. tekhn. nauk; MALININ,
N.N., prof., doktor tekhn. nauk; PONOMAREV, S.D., prof. doktor
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SERENSEN, S.V., akademik; STEPANOVA, V.S., inzh.; STRELYAYEV,
V.S., inzh.; TRAPEZIN, I.I., prof., doktor tekhn. nauk;
UMANSKIY, A.A., prof., doktor tekhn. nauk; FEODOS'YEV, V.I.,
prof., doktor tekhn. nauk; SHATALOV, K.T., doktor tekhn.nauk;
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[Manual for a mechanical engineer in six volumes] Spravochnik
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(MIRA 15:4)

1. Akademiya nauk USSR (for Serensen).
(Machinery—Design)

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axisymmetrically loaded plates. Rasch. na prochn. no.9:
173-195 '63.   (MIRA 16:12)

MALININ, N.N. (Moskva.)

Large deformations of a strip in plastic bending. Izv. AN SSSR.
Mekh. no.2:120-123 Mr-Ap '65.

(MIRA 18:6)

MALININ, N.N., doktor tekhn. nauk, prof.; SHIRSHOV, A.A., inzh.

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1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.

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S-0 '65.

MALININ, N.N., doktor tekhn. nauk, prof.; SHIRSHOV, A.A., aspirant

Plastic flexure of a sheet at heavy deformations. Izv. vys. ucheb.
zav.; mashinostr. no.8:187-192 '65.   (MIRA 18:10)

BUBNOVA, L.V., starshiy prepodavatel'; MALININ, N.N., doktor tekhn. nauk, prof.

Strains and stresses caused by changing the shape of thin-walled pipes. Izv. vys. ucheb. zav.;mashinostr. no. 10:199-203 '65
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1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana.
Submitted February 2, 1965.

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Review of Russian works on the calculation of machine parts
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PONOMAREV, S.D., doktor tekhn.nauk, prof.; MALININ, N.N., doktor
tekhn.nauk, prof.; KANEVSKIY, M.V., inzh.

Reviews and bibliography. Vest.mashinostr. 46 no.1:88-94
Ja '66.   (MIRA 19:1)

ACC NR: AP7005235   (A)   SOURCE CODE: UR/0145/66/000/009/0137/0144

AUTHOR: Garagash, I. A. (Student); Malinin, N. N. (Doctor of technical sciences, Professor); Meshcheryakov, R. K. (Senior instructor)

ORG: MVTU im. N. E. Bauman

TITLE: Peculiarities in calculating calibration of thin-walled cylinders with elongation

SOURCE: IVUZ. Mashinostroyeniye, no. 9, 1966, 137-144

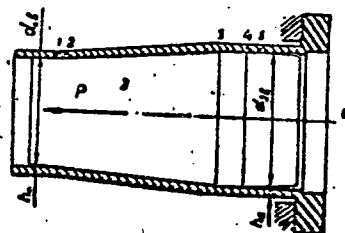TOPIC TAGS: cylindric shell structure, metal drawing

ABSTRACT: Equations are derived for calculating the stresses, forces and changes in the diameter of the opening, wall thickness and length of a thin cylinder during calibration with elongation. The proposed method of calculation is based on the momentless theory of shells of revolution and the Prandtl-Reuss flow theory, assuming that there is no reinforcement. The calibration process is treated as elastoplastic deformation of the cylinder. The following sections of the region of contact between the deforming die and the cylinder are considered (see figure): 1-2--the elastic region touching the leading cone; 2-3--the elastoplastic region touching this same cone; 3-4--the section touching the cylindrical part of the die and 4-5--the section touching the trailing cone. An example is given showing application of the proposed

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ACC NR: AP7005235

method to calculation of the calibrating process
for the shock absorbers in the Moskvich-408 automo-
bile. A comparison of the absolute values of wall
thicknesses calculated by the proposed method with
experimental data shows a difference of only a few
microns, which is quite satisfactory for practical
problems. The observed discrepancies are partially
due to the considerable effect of variations in the
thickness of the cylinder walls which may be as high
as 0.25 mm. Orig. art. has: 3 figures, 3 tables, 26 formulas.

SUB CODE: 13/ SUBM DATE: 30Mar66/ ORIG REF: 03

Card 2/2

MALINKIN, N...

Effect of fertilizers on the development of cotton. Nauch.
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(MIRA 18:7)

DRIVING, Ya.Ya., arkhitekter; MALININ, N.V., inzhener.

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(MLRA 9:9)
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MALININ, N.V.

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measurement. Izm.tekh. no.9:62 S '60.   (MIRA 13:9)
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MALININ, C.

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    Radio

    Future radio specialists. Radio, No. 4, 1952.

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MALININ, O.I. [Malynin, O.I.], prof.; KOKULENKO, N.R., assistent

Use of isoverin and promedol in relatively difficult labor. Ped.,
akush. i gin. 20 no.5:59 '58.   (MIRA 13:1)

1. Akushersko-ginekologicheskaya klinika (direktor - zasluzhennyy
deyatel' nauki prof. A.I. Malinin) Odesskogo gosudarstvennogo medi-
tsinskogo instituta im. M.I. Pirogova (direktor - prof. I.Ya. Deyneka).
            (CADAVERINE) (PIPERDINE) (LABOR, COMPLICATED)

BCS   MALININ, P.K.

mining, Preparation, Shaping

81. A press for re-grinding guide tubes.—P. K. Malinin (Ogneupory, 16, 225, 1951). In one Russian plant a hand-operated toggle-lever press for guide tubes was replaced by a more efficient press which is described in detail. (2 figs.)

BREUSENKO, D.P.; ORESHKIN, V.V.; SHUKHOV, N.S.; MALININ, P.V., otv.
red.; PROTOPOPOVA, N.V., red.; VALUYEVA, I.V., tekhn.red.

[Methodology problems of the history of economic thought]
Nekotorye voprosy metodologii istorii ekonomicheskoi mysli.
Moskva, Mosk. in-t inzhenerov geodezii, aerofotos"emki i
kartografii, 1963.   71 p.   (MIRA 16:3)
                      (Economics)

MALININ, P.V., prepodavatel'

A new stage in overcoming the essential difference between town and country in the U.S.S.R. Trudy MIIGAIK no.43:41-58 '60.   (MIRA 16:7)
(Collective farms)

USSR/ Miscellaneous – Communications

Card 1/1   Pub. 133 – 15/24

Authors   : Malinin, P. E., Engineer

Title   : Reduction of exploitation costs

Periodical   : Vest. svyazi 6, page 26, June 1954

Abstract   : The great achievements in Soviet communications engineering, which made it possible to reduce the operational costs of radio stations and consequently reduction of subscriber rates, are briefly described.

Institution : ...

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MALININ, R. M.

Samodel'naia izmeritel'nata apparatura. ⌐Homemade measurement apparatus⌐. Moskva,
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DLC: TK9956.M24

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
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Pitanie priemnikov ot elektroseti. ⎡Feeding radio receivers from the electric power system⎤. Moskva, Gosenergoizdat, 1950. 104 p.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Refernce Department, Washington, 1952, Unclassified.

MALININ, R.

PA 174T100

USSR/Radio - Rectifiers
Tubes

Oct 50

"Rectifiers," R. Malinin

"Radio" No 10, pp 56-61

Describes rectifier circuits and various types of
selenium and high-vacuum rectifiers to aid ama-
teurs in selection and calcn. Tables give data
for VO-230, 30Ts1M, V-879, 2X2, 5Z4, 5U4G, 5Y3G,
6X5, VO-188, 30Ts6S, AZ-11, AZ-12, EZ-11, EZ-12,
and UY-11 rectifier tubes and for selenium recti-
fiers of 18, 25, 35, and 45 mm diam (36 disks in
stack).

174T100

177T102

USSR/Radio - Components   Dec 50
              Books

"Review of I. Yu. Temper's 'Radiotovry' (Radic
Parts: A Manual for Dealers)", R. Malinin

"Radio" No 12, pp 61-62

Such a book is greatly needed, but this manual is
full of false and confusing statements and omits
much info valuable to salesmen. For example, no
data is given on tube substitutions (6K9 for 6K7,
6P3 for 6L6, etc). Published by Gostorgizdat, 1950,
116 pp, 4 rubles.

177T102

USSR/Radio - Literature   Feb 51

"Review of A. D. Batrakov's 'Elementary Electrical Engineering for Radio Amateurs,'" R. Malinin

"Radio" No 2, pp 60, 61

Gives fundamentals of elec, piezoelec and magnetic phenomena, dc and ac, resonance, etc. Treatment of elec and radio equipment is good. Main defect of book is neglect of the priority of Russian scientists in the soln of elec and engineering problems and in the invention of

189T109

PA 189T109

USSR/Radio - Literature (Contd)   Feb 51

elec instruments. Popular Radio Library Series, Gosenergoizdat, 1950, 176 pp, 50,000 copies, 6.50 rubles.

189T109

MALININ, R.

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USSR/Electronics - Receivers, Battery

Feb 52

+Tubes, Miniature

"Application of the 1B1P Tube," R. Malinin

"Radio," No 2, pp 48-50

Encourages the use of the 1B1P diode-pentode as an af preamplifier in battery-operated receivers because of its low power drain. Gives data for resistance-coupled af amplification stage, using the pentode section of the 1B1P. If the tube is used in a superheterodyne circuit, the diode section can be used as a second detector.

MALININ, R.

"Dual diode-triodes, duel diode-pentodes in superheterodynes."

So. Radio, vol. 7, p. 59, 1952

MALININ, R.M.; MASHAROVA, V.G., redaktor; LARIONOV, G.Ye., tekhnicheskiy
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[Low-frequency amplifiers] Usiliteli nizkoi chastoty. Moskva, Gos.
energ. izd-vo, 1953. 151 p. (Massovaia radiobiblioteka, no.183)
        (Amplifiers, Electron tube)   (MLRA 7:11)

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Sound - Recording and Reproducing

Fundamentals of sound reproduction and amplification. Kinomekhanik No. 2, 53.

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June 1953. UNCL.