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(HEPATIC DUCT, neoplasms
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(JAUNDICE, OBSTRUCTIVE, etiol. & pathogen.
hepatic duct cancer, surg. (Ger))

PETERFY, LASZLO

VITEZ, Istvan, dr.; PETERFFY, Laszlo, dr.; GERLEI, Ferenc, dr.

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(MONILIASIS, case reports
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PETERFFY, Tibor

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PETERFFY, Tibor

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Source: East European Accessions List (EEAL), Library of Congress
Vol. 5, no. 6, June 1956

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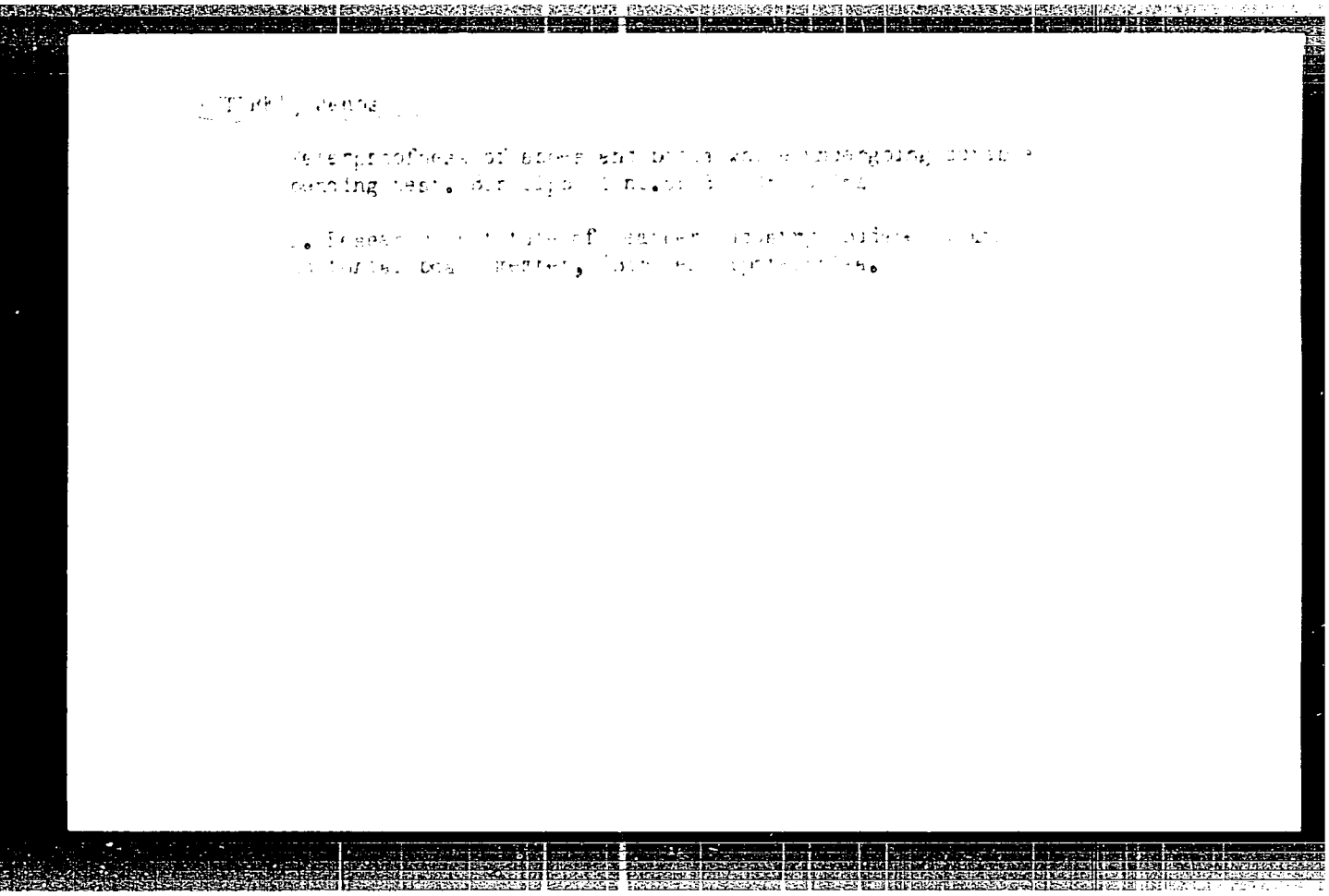
.. Research Institute of Leather Industry, Budapest, and Editorial board member, "Bőr- és Cipőtechnika."



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1. Research Institute of the Leather Industry; editorial board member, "Bor- es Cipotechnika."

PETERFI, Janos

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1. Membru corespondent al Academiei R.P.R.

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1. Chair of Botany, "Babes-Bolyai" University, Cluj.

Action of manganese, zinc and fluorine on the development of Microthamnion kützingianum (Naeg). J. Grintescu and S. Péterfi. *Bul. Soc. Chim. Romania* 18A, 177-81(1936).—The max. concn. of Mn supported by this alga is 0.001%; of Zn less than 0.0001%; of F less than 0.001%. The optimum concn. as indicated by reproduction and development is around 0.0001% in each case. The toxic limits for Mn and F are nearly the same but Mn has the greater stimulating effect. O. W. Willcox

METALLURGICAL LITERATURE CLASSIFICATION

CATEGORY :

ABS. JOUR. :

AUTHOR :

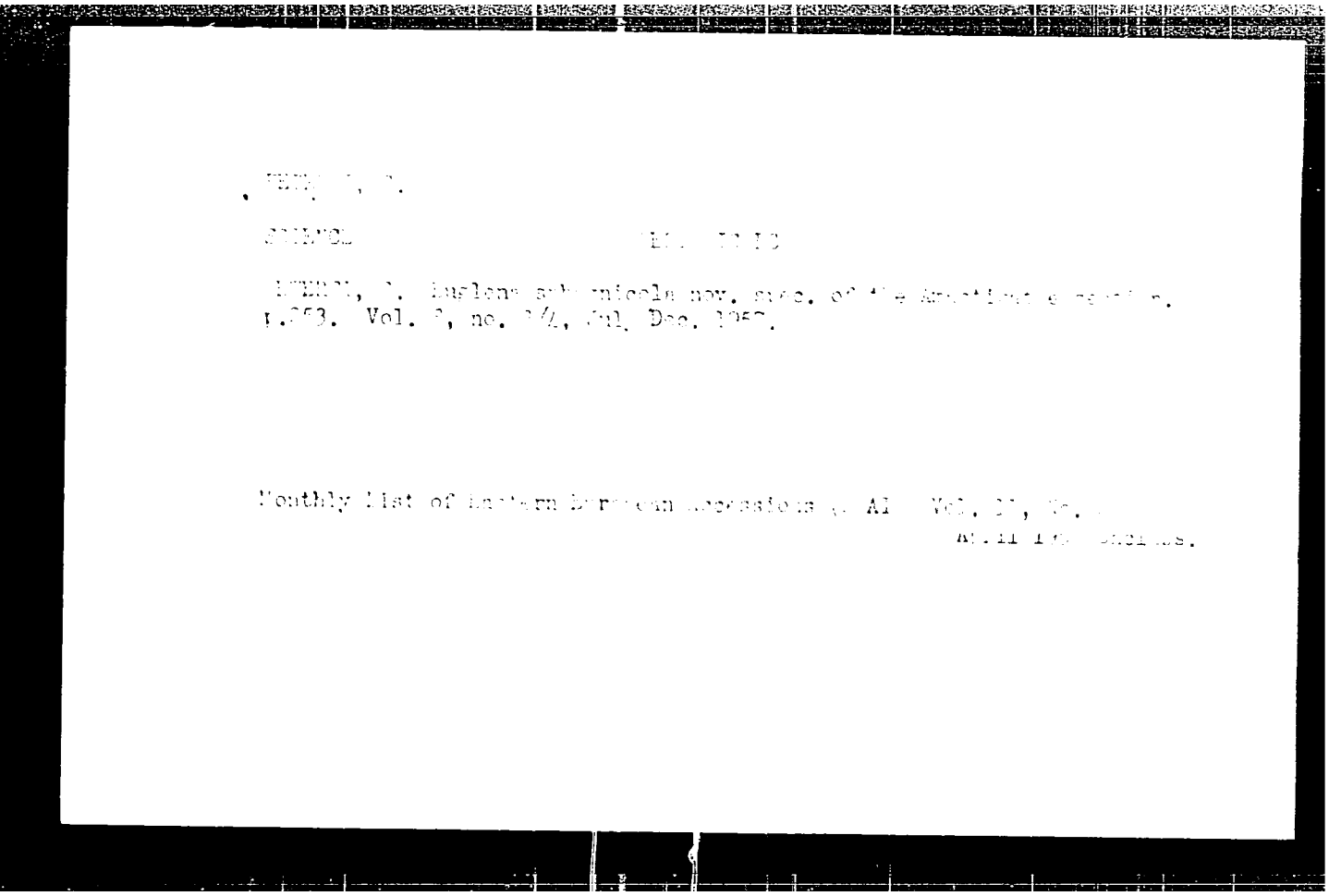
INST. :

TITLE :

ORIG. PUB. :

ABSTRACT :

CARD:



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PETERFI, S.; [illegible]

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1. Laboratory of Vegetable Physiology, "Babes-Bolyai" University, Cluj and Laboratory of Systematic Botany, University of Bucharest. Submitted August 1, 1963.

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Variation of the inhibiting and growth substances during the wheat development. Studii biol Cluj 14 no.1:19-33 '63.

1. Center of Biological Research, Rumanian Academy, Cluj Branch.

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Gibberellin action on the growth of green algae. Comunicarile AR 13 no.11:957-962 N'63.

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1. Academia R.P.R. Filiala Cluj; Centrul de cercetari biologice, Secti de fiziologia plantelor. 2. Membru corespondent al Academiei R.P.R. (for Peterfi).

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1. Universitatea "Babes-Bolyai," Cluj, Catedra de biologie.

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So: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 4, April. 1955, Uncl..

SELMECI, Erno, dr.; PETERFY, Karoly, dr.

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1. Fovarosi IV. ker. Szulo es Nobetegkorhaz.
(PREGNANCY ECTOPIC)

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November 1959
Uncl.

S/124/60/000/006/039/039
A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 6, p. 190, # 8211

AUTHOR: Petergerya, D.M. Oleynik, N.V.

TITLE: The Scale Effect in Overloading Alloy Steel

PERIODICAL: Nauchn. zap. Odessk. politekhn. in-t, 1959, Vol. 16, pp. 252-265

TEXT: The steels 45 and 30ХН3А (30KhNZA) were subjected to the fatigue test in plain bending at the НУ-(NU-) machine (7.52 mm diameter of the specimens) and at machines specially designed for this test (12.5, 20, 30 diameter of the specimens). The statical tensile strength limits of the chosen materials were: for the steel 45 equal to 65 kg/mm^2, and for the steel 30KhNZA equal to 114 kg/mm^2. For concentrating the stresses, transversal apertures in the operative regions of the specimens were chosen. Preliminary overstressing the specimens with symmetric bending cycles was performed before the fatigue tests. The endurance curves are presented for all dimensions of the specimens and for the two grades of steel; they show that, especially in the initial stage of

Card 1/2

PETERGERYA, D.M. [Peterheria, D.M.] (Zaporozh'ye)

Determining coefficients of the effect of a scale factor [illegible] area of limited strength. Prykl.mekh. [illegible] no.[illegible] [illegible]. (MIRA 14:10)

1. Zaporozhskiy mashinostroitel'nyy institut.
(Strength of materials)

OLEYNIK, N.V., kand.tekhn.nauk, dotsent; PETERGERYA, D.M., inzh.

Role of the scale effect in overload testing of [illegible]. Vest. mashinostr. 42 no.6:20-23 Je '62. (MIRA [illegible])
(Steel--Testing)

ACCESSION NR: AP4010068 S/0129/64/000/001/0014/0019

AUTHOR: Petergerya, D.M.; Fridlender, I.G.

TITLE: Effect of annealing and combined treatment on the mechanical properties of the alloy KhN77TYuR

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov no. 1, 1964, 14-19

TOPIC TAGS: annealing, electroplating, alloy mechanical property, turbine blade, KhN77TYuR alloy, alloy hardness

ABSTRACT: In order to explain the cracking of turbine blades during their use, the authors studied the effects of annealing in air, NH_3, N, and Ar on the alloy KhN77TYuR and the effects of heat treatment and electroplating on the mechanical properties of parts manufactured from this alloy. The finished parts, with or without electropolishing, were annealed in air at 750 C for 8 hours, or in dissociated NH_3, N, or argon at 850 C for 2 hours. Parts treated in a neutral atmosphere were annealed and aged at 700 C for 7 hours. The mechanical properties of the parts were evaluated by determining their microhardness, wear resistance, delayed failure, ductility, and impact toughness. It was found that the microhardness was decreased to some extent in all tested media and conditions. The microhardness was more markedly decreased on annealing at 850 C for 2 hours than by

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ACCESSION NR: AP4010068

annealing at 750 C for 8 hours. The mechanical properties of the tested alloys were increased by annealing and electropolishing, the best results being obtained by annealing in an argon atmosphere. A positive effect of electropolishing on the delayed failure and wear resistance was also demonstrated. It is concluded that annealing of blades made of alloy KhN77TYuR may be carried out in air at 750 C for 8 hours. Optimal mechanical properties are obtained, however, by annealing in an argon atmosphere after electropolishing. Orig. art. has: 2 figures and 5 tables.

ASSOCIATION: Zaporozhskiy mashinostroitel'ny*y institut (Zaporozhe Machine Building Institute)

SUBMITTED: 00	DATE ACQ: 07Feb64	ENCL: 00
SUB CODE: ML	NO REF SOV: 004	OTHER: 001

Card 2/2

PETERGERYA, D.M.; FRIDLENDER, I.G.

Effect of annealing and combined treatment on the mechanical characteristics of the KhN77TIUR alloy. Metalloved. i term. obr. met. no.1:14-19 Ja '64. (MIRA 17:3)

1. Zaporozhskiy mashinostroitel'nyy institut.

RYABTSEV, S.I.; PETERGERYA, D.M.

Investigating the fatigue strength of DI-1 and Kh17N2 steels.
Izv. vys. ucheb. zav.; chern. met. 6 no.10:125-129 '63.
(MIRA 16:12)

1. Zaporozhskiy mashinostroitel'nyy institut.

PETERGERYA, D.M., inzh.

Effect of absolute dimensions of specimen cross sections on the fatigue curve. Vest.mash. 40 no.12:10-13 D '60. (MIRA 13:12)
(Steel--Fatigue)

S/137/60/000/03/10/013

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No 3, p 251, # 6238

AUTHORS: Petergerya, D.M., Oleynik, N.V.

TITLE: The Scale Effect in Overloading Alloyed Steel

PERIODICAL: Nauchn. zap. Odessk. politekhn. in-t, 1959, Vol 16, pp 252-265

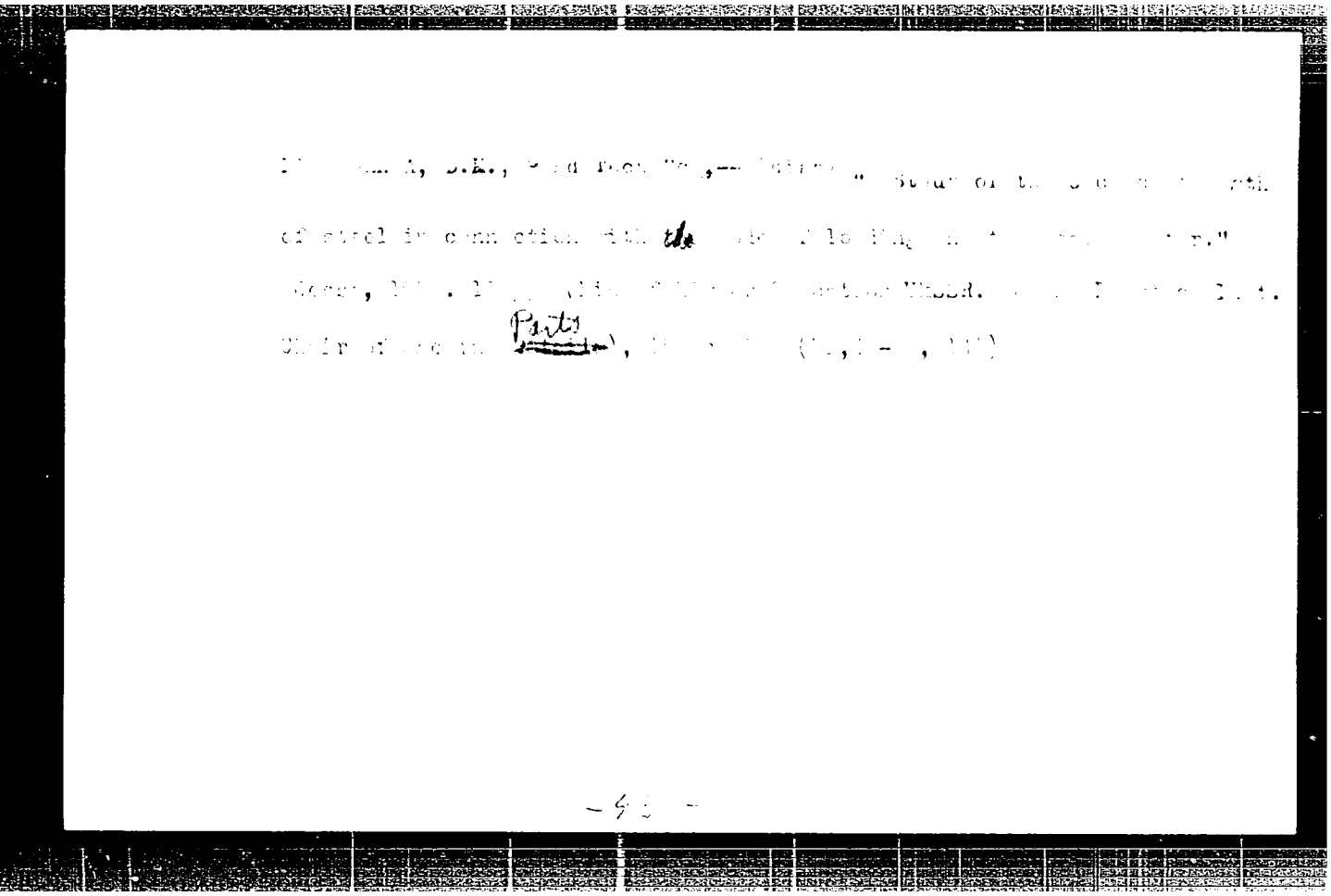
TEXT: The authors investigated the effect of preliminary cyclic load on metal creep depending on the absolute dimensions of the specimen. The investigation was carried out on preliminary normalized 30XH3A (30KhN3A) alloyed steel specimens of 7.52; 12.5; 20 and 27 mm in diameter. The results were compared to those obtained previously from 45 steel tests. It was established that the absolute dimensions represented a factor which affected strongly the fatigue limit of the material and its overload strength. It is shown that the overload resistance of steel grows with increased absolute dimensions: the cyclic durability, under similar relative overload, increases with a larger diameter of the specimens. It is assumed that the regularities determined may in principle also be applied to other structural steel grades.

Card 1/1 Z.F.

OLEYNIK, N.V.; PETERGERYA, D.M.

Most suitable shape of cylindrical specimens for fatigue testing in pure bending. Zav.lab. 26 no.2:210 '60. (MIRA 13:5)

1. Odesskiy politekhnicheskiy institut.
(Steel--Testing)



29339
S/122/61/000/010/005/011
D221/D304

10 7400

AUTHORS: Petergerya, D.M., Engineer, and Oleynik, N.V. Candidate of Technical Sciences, Docent

TITLE: On the influence of absolute sizes of a specimen section on the magnitude of effective stress concentrations during loads above the fatigue limit

PERIODICAL: Vestnik mashinostroyeniya, no. 10, 1961, 52 - 54

TEXT: The authors quote results of investigations concerning the effect of overloads on fatigue resistance related to stress concentrations derived from experiments with structural steels. Specimens were made in steels 45 and 30XH3A (30KhN3A). Effective coefficients of stress concentration, corresponding to the horizontal portion of fatigue curve are designated by K_σ, and in the region of limited strength by K'_σ. The present article tabulates data which demonstrate that the inclination of fatigue curves for undercut and large specimens is greater than in the case of small and plain samples. The latter exhibit a tendency to rise with an increase of diameter.

Card 1/4

On the influence of absolute ...

confirming, therefore, the law which expresses the drop of K' higher overloads. It also reveals the effect of absolute size a specimen section on the character of this reduction. Variati of K'_σ with length of li[illegible]e and diameter of specimen were investiga ted. The abscissae of bends for plain samples, N, were small the corresponding abscissae N'_σ, of curves for undercut spec but at $N = N'_o$, $K'_\sigma = K_\sigma$. Results of calculati K'_σ plotted i log coordinates are shown in Fig. 1. Further analysis allows th law of changes of K'_σ with log N in the ranges O-N and $N_o - N'$ represented by approximation of linear equations. Consequ full curves $K'_\sigma = f(\lg N)$ can be assumed as three broken sections In ranges of O-N and $N_o - N'_o$ they follow

$$10^{K_{\sigma_2} - K_{\sigma_1}} \cdot \left(\frac{N_1}{N_2}\right)^q = 1$$

where K_{σ_2} is the coefficient of stress concentration in the case

Card 2/4

life N_2; K_{σ_1} - ditto for life of N_1; q is the angular coefficient, which characterizes the inclination of the curve of the relationship between the effective stress concentration coefficient and log of life, $q = \frac{K_{\sigma_2} - K_{\sigma_1}}{\lg N_2 - \lg N_1}$. Computation of the latter indicates that K' varies more sharply between $N_0 - N_0'$, than in the region $10^5 - N_0$, and that inclination of curves $K_\sigma' - N$ increases with greater diameters of specimens. The expression for K_σ' which is quoted below, was based on the step law of the left hand branch of the fatigue curve as given by D.N. Reshetov (Ref. 6: Sb. "Povysheniye prochnosti detaley mashin" Izd. AN SSSR, 1949). The deduction can be understood from arbitrary curves of fatigue for plain and undercut specimens. There are 2 figures, 2 tables and 6 refer-ences: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H. Moore and D. Markovin, Proceedings of Amer.Soc.for Testing Mater., v.42-44, 1942-1944.

Card 3/4

On the influence of absolute ...

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D221/D301

Fig. 1. Curves giving the relationship between K' and lg N:

Legend: 1 - Specimens of steel 45 with diameter of 7.52 mm; 2 - specimens of steel 45 with diameter of 30 mm; 3 - specimens of steel 30KhN 3A with diameter of 7.52 mm; 4 - specimens of steel 30KhN3A with a diameter of 27 mm.

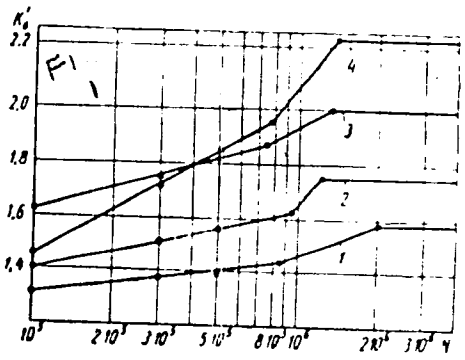

Рис. 1. Кривые зависимости K'_σ от lg N:
1 — образцы из стали 45 диаметром 7,52 мм; 2 — образцы из стали 45 диаметром 30 мм; 3 — образцы из стали 30ХН3А диаметром 7,52 мм; 4 — образцы из стали 30ХН3А диаметром 27 мм.

Card 4/4

PETERGERYA, D.M. [Peterheria, D.M.] (Zaporozh'ye)

Quantitative evaluation of the reduction of fatigue limit caused by overloads. Prykl.mekh. 7 no.4:454-456 '61. (MIRA 14:9)

1. Zaporozhskiy mashinostroitel'nyy institut.
(Steel—Fatigue)

PETERGERYA, D.M., inzh.; OLEYNIK, N.V., kand.tekhn.nauk, dotsent

Effect of total cross-section dimensions of specimen on the value of effective concentration of stresses above fatigue limit. Vest. mash. 41 no.10:32-34 O '61. (MIRA 14:10)
(Strains and stresses)

L 15705-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/ETI/EWP(k)/EWP(z)/EWP(b) IJP(c)/JD/AT

ACC NR: AP6003306 SOURCE CODE: UR/0129/66/000/001/0034/0036

AUTHOR: Petergerya, D. M.

ORG: Zaporozh'ye Machine Building Institute (Zaporozhskiy mashinostroitel'nyy institut)

TITLE: Fatigue strength and stress-rupture strength of KhN77TYuR Ni-Cr alloy

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 1, 1966, 34-36

TOPIC TAGS: fatigue strength, rupture strength, surface hardening, shot peening, nickel containing alloy, chromium containing alloy / KhN77TYuR (EI437B) Ni-Cr alloy

ABSTRACT: These properties were investigated for hot-rolled rods of KhN77TYuR (EI437B) alloy (0.06% C, 0.30% Mn, 0.34% Si, 20% Cr, 0.6% Fe, 2.5% Ti, 0.71% Al, 0.04% Cu, 0.055% S, 0.01% P, 0.01% Ce, 0.005% Pb, 0.01% B, 0.001% Sn; the remainder -- Ni) hardened at 1080°C for 8 hr, air-cooled and aged at 700°C for 16 hr. The fatigue limit and the stress-rupture strength were determined by testing 7 series of 10 specimens each, each series with a different type or degree of work hardening (lathe-turning with subsequent mechanical polishing, removal of work-hardened layer by electropolishing after lathe-turning, shot-peening with subsequent electropolishing for 3, 8, 16, 26, and 36 min). This treatment produced specimens with work-hardened surface layers of various thickness (260, 210, 130 and 30 μ). The results of the endur-

Card 1/3 UDC: 659.14.018.45:620.178.35

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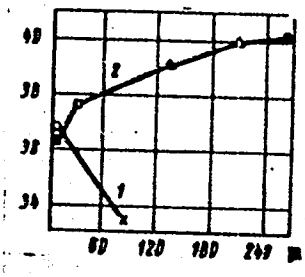
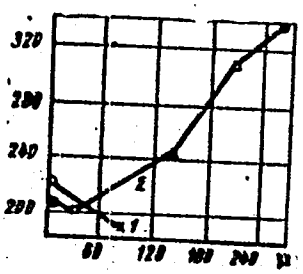
ACC NR: AP6003306

σ_{-1}, kg/mm^2



depth of work-hardened layer

hours till fracture



depth of work-hardened layer

Fig. 1. Effect of depth of work-hardened layer on fatigue limit and breaking strength of EI437B alloy at 700°C:

1 - work hardening after lathe-turning and mechanical polishing; 2 - work hardening after shot-peening

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ACC NR: AP6003306

ance and strength tests at 700°C indicate that these mechanical characteristics depend on the state and thickness of the surface layer. Thus, the fatigue limit and stress-rupture strength of the shot-peened specimens were found to increase with increasing depth of the work-hardened layer and to be higher for the shot-peened specimens than for the lathe-turned specimens (Fig. 1). On the other hand, as the time of stay in heated and stressed state increases, the fatigue limit of the shot-peened specimens eventually drops to the level of the non-shot-peened specimens. Notwithstanding this, shot-peening may be useful to apply for work parts operating at temperatures below the alloy's recrystallization temperature and having a limited service life and operating under specific load conditions. Orig. art. has: 1 table, 2 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Card 3/3 SYN

24.4200
10 7400

25465 S/123/60/000/012/012/018
A161/A133

AUTHOR: Petergerya, D. M., Engineer

TITLE: Effect of the absolute cross sectional dimensions of test specimens on the fatigue curve

PERIODICAL: Vestnik mashinostroyeniya, no. 12, 1960, 10 - 13

TEXT: Results of an experimental investigation conducted with solid round smooth specimens and same specimens provided with a stress concentrator in the form of a cross hole are presented. The material of the specimens was "45" and 30KhGSA (30KhGSA) machinery grade steel. The test consisted in pure torsion bending. Details of the experiment techniques and the chemical composition of steel were published previously (Ref. 1: M. V. Gryunik, D. M. Petergerya "Nauchnyye zapiski Odesskogo politekhnicheskogo instituta", v. 17, 1958). The analytical relation (chosen from different that had been suggested up to the present time), used for the inclined portion of the fatigue curves characteristic was

$$\sigma^m N = C$$

where σ - the stress amplitude, N and m - constants for the certain experiment

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Effect of the absolute cross section dimensions of...

conditions, N - the load cycles number to rupture. By D. N. Reshetov (Ref. 2: Sympozium Raschet detaley stankov na dolgovechnost' (Durability calculations for machine tool parts), Izdatel'stvo AN SSSR, 1949), the m value for smooth steel polished specimens may be 9 - 10 and for same specimens with a stress concentrator or joined with press-fitted parts it is 6 - 10. An average of 9 is recommended for practical calculations. Differentiated data on the m factor are not available and this always leads to conditional assumptions and sometimes to considerable differences in calculation results. This explains why the real durability of parts sometimes comes out different from the calculated. The statistical processing method suggested by A. K. Mitropol'skiy (Ref. 3: Trudy Leningradskogo politekhnicheskogo instituta im. S. M. Kirova, no. 48, 1937) was employed for the experiment data processing. The method consists in calculation of the stresses logarithm values, then of the correlation factor and the angle factor (m) being used in a linear correlation equation:

$$X = \overline{X} + m(Y - \overline{Y})$$

where $\overline{X}$ and $\overline{Y}$ are the mean values of the cycle numbers and stresses logarithms. It had been pointed out that such correlation with averaged m value is not perfect (Ref. 4: G. M. Sinclair, T. J. Dolan "Trans. ASME", v. 75, 1953), still it reduces the necessary number of observations. The processing results are illustrated in a

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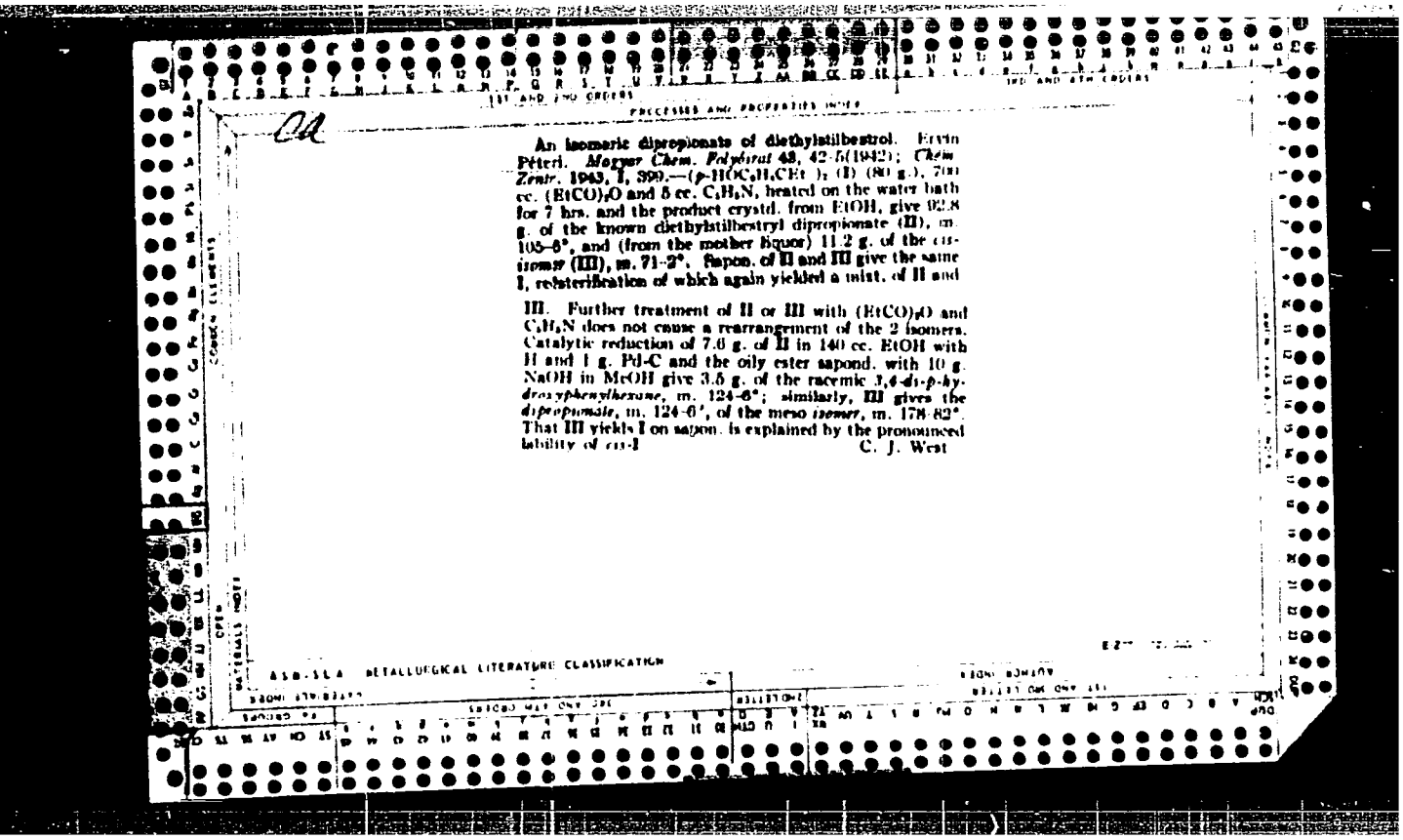
graph. As seen, the dropping lengths of the fatigue curves are very different. The data are not sufficient for final recommendations, but it is evident that small-diameter specimens of high-quality 30KhN3A alloy steel had highest sensitivity to overload, and the sensitivity decreased with increasing specimen diameter. This observation fully matches data obtained by S. Fillips and R. Haywood [Ref. 5: "Voprosy ustalostnogo razrusheniya staley" ("Fatigue failure of steel"), Mashgiz, 1957]. The m-factor range corresponded to the range indicated by Reshetov. The effect of the stress concentrator was clear - it made the m-factor value practically equal for two diffierent steel grades, and m varied in a narrower range. It is evident that the averaged values employed presently for calculations are not adequate for today accuracy requirements. There is 1 figures and 5 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Sinclair G. M., Dolan T. J., "Trans. ASME", v. 75, 1953.



An isomeric dipropionate of diethylstilbestrol. Ervin Péteri. *Magyar Chem. Folyóirat* 48, 42-5(1942); *Chem. Zentr.* 1943, I, 399.—(*p*-HOC$_6$H$_4$CEt)$_2$ (I) (80 g.), 70 cc. (EtCO)$_2$O and 5 cc. C$_5$H$_5$N, heated on the water bath for 7 hrs. and the product crystd. from EtOH, give 92.8 g. of the known diethylstilbestryl dipropionate (II), m. 105–6°, and (from the mother liquor) 11.2 g. of the *cis*-*isomer* (III), m. 71–2°. Sapon. of II and III give the same I, reësterification of which again yielded a mixt. of II and III. Further treatment of II or III with (EtCO)$_2$O and C$_5$H$_5$N does not cause a rearrangement of the 2 isomers. Catalytic reduction of 7.6 g. of II in 140 cc. EtOH with H and 1 g. Pd-C and the oily ester sapond. with 10 g. NaOH in MeOH give 3.5 g. of the racemic *3,4-di-p-hydroxyphenylhexane*, m. 124–6°; similarly, III gives the *dipropionate*, m. 124–6°, of the meso *isomer*, m. 178–82°. That III yields I on sapon. is explained by the pronounced lability of *cis*-I.

C. J. West

PETERI, Istvan

An artisan people's front chairman. Magy kisipar 6 no.25:2 13 D '62.

VARSANYI, G.; TARJAN, G.; PETERI, L.

The ultraviolet spectrum of the toxemic blood serum. Magy. noorv. lap. 15 no. 10:293-296 Oct 1952. (CIML 23:5)

1. Doctors. 2. Branch of Physical Chemistry of Budapest Technical University (Director -- Prof. Dr. Geza Schay) and First Women's Clinic, Budapest Medical University (Director -- Prof. Dr. Bela Horn).

Experiments on the etiology of eclampsia. L. Péteri and Gy. Tarján (Univ. Budapest). *Gynaecologia* 129, 350-8 (1950). Blood serum of nephropathic patients contains a substance which has a depressor effect on cats anaesthetized with urethan. The substance is not identical with choline, histamine, renin, angiotonin, angiotonase, or any substance developed on blood clotting. During eclamptic attacks the depressor substance disappears. To explain the paradox of high blood pressure and presence of a depressor substance, it is suggested that in the nephropathic mother the depressor substance in the blood acts to cause overcompensation and resulting high blood pressure. Ruth B. Pitt

L 26488-66 EWT(l)/EWA(h)

ACC NR: AP6013067 SOURCE CODE: UR/0048/66/030/004/0620/0627

AUTHOR: Kylasov,V.A.; Lyamichev,I.Ya.; Orlov,I.N.; Pershin,G.G.; Peterinov,S.V.; Taborko,N.I.; Fok,M.V.

ORG: None

TITLE: Problems involved in the development of electroluminescent indicators and image converters /Report, Fourteenth Conference on Luminescence held in Riga, 16-23 September 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 4, 1966, 620-627

TOPIC TAGS: real time data display, image converter, electroluminescence, phosphor, information storage and retrieval, control circuit

ABSTRACT: The paper is devoted to a general discussion of the problems involved in development of electroluminescent display screens (matrix screens) and electroluminescent converters of visible and x-ray images. In conjunction with the screens it is indicated that current research is aimed at increasing the peak brightness of electroluminescent phosphors (important because the average viewing brightness is a function of the maximum brightness multiplied by the excitation time of a screen element and divided by the interval between successive activations) and development of means for realization of information storage on or for the screen. Approaches to enhancement of brightness are improvement of the composition of phosphors and electroforming, which involves application of an ac or dc potential to the electroluminescent

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ACC NR: AP6013067

capacitor while the binder (paraffin) is solidifying. Realization of storage is connected with development of appropriate control circuitry, including external storage components. A block diagram of a control circuit for a matrix screen with external storage is shown in a figure. Research in the field of image converters is being carried out along the lines of improving the parameters of photoconducting powdered materials in the visible and x-ray regions, theoretical and experimental determination of the optimum operating conditions for converters of different design, design development and improvement of the technology of image converters. A table gives a series of formulas that should be useful in designing new image converters. Mention is made of work on development of tubes for converting ultrasonic images to visible images. Photographs reproduced in the text show a converter image of a TV test pattern and images of x-ray pictures of some vacuum tubes and electronic components displayed on a 200 cm^2 screen. Orig. art. has: 14 formulas and 5 figures.

SUB CODE: 09,20/ SUBM DATE: 00/ ORIG REF: 005/ OTH REF: 004

Card 2/2

USSR/Colloid Chemistry. Dispersion Systems B-14

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26427

Author : K.M. Merzhanov, N.I. Peterimova, N.S. Smirnov
Title : Influence of Ionization of Air on Dispersion Phase of Aerocolloids.

Orig Pub : Kolloid. zh., 1956, 18, No 5, 574-577

Abstract : The influence of the ionization of air on the dispersion phase of a natural aerocolloid was studied. Ultraviolet and x-rays and α-particles served as sources of ionization. The irradiation of air was carried out in chambers, the volume of which was from 0.8 to 2 cub.m. The concentration of particles was determined ultramicroscopically in a flow. At the concentration of up to 10^5 or 10^7 pairs of ions per cub-cm in ordinary air with the relative humidity up to 100%, the concentration of ultramicroscopic particles increased 3 to 4 times, and the number of nuclei of condensation increased over 10 times. The concentration of particles rises together with the irradiation duration and the ionization degree; the size of particles increases together with the concentration rise.

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PETERIMOVA, N. I., SMIRNOV, N. S., and MERZHANOV, K. M.

"On the Effect of Ionization of Air on the Dispersed Phase of Aerocolloids," by K. M. Merzhanov, N. I. Peterimova, and N. S. Smirnov, Geophysics Institute, Academy of Sciences USSR, Kolloidnyy Zhurnal, Vol 18, No 5, 1956, pp 574-577

Ultraviolet rays, X rays, and beta-particles were used as a source for the ionization of atmospheric air. About 1,000 tests were performed showing the influence of ionization of air on the concentration of ultramicroscopic particles in moist air, the influence of duration of ionization (irradiation) of air on the concentration of ultramicroscopic particles, the influence of ionization of air on the maximun radius of ultramicroscopic particles, the influence of the degree of ionization of air by X rays on the concentration of ultramicroscopic particles, and the influence of ionization on the concentration of condensation nuclei.

The results prove that an increase in the ionization of the dispersing medium increases the concentration of the particles of the dispersed phase of aerocolloids. At concentrations ranging from 10^6 to 10^7 ion pairs per cubic centimeter in normal air with a relative humidity not exceeding 100% the concentration of ultramicroscopic particles is increased threefold to fourfold and the number of condensation nuclei is more than ten times greater.

Sum 1258

PETERKA EMANUEL

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and Their Application. Medicinals. Bitamins. Antibiotics. I-3

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2261

Author : Spaleny Jiri, Peterka Emanuel

Inst : -

Title : The Cause of the Instability of Injection Solutions of 2,3-Dimercapto-Propanol.

Orig Pub : Ceskosl. farmac., 1956, 5, No 8, 476-479

Abstract : It was found that formation of a sediment in injection solutions of 2,3-dimercapto-propanol is due to the presence of peroxide compounds in benzyl benzoate (I) and olive oil (II) used to make the preparation. A determination has been made of the requirements as to the degree of purity of I and II.

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L 31584-66 EWP(k)/EWP(h)/EWP(v)/EWP(l)

ACC NR: AP6022078 SOURCE CODE: CZ/0000/65/000/009/0235/0237

AUTHOR: Peterka, Frantisek (Engineer)

54
B

ORG: Institute of Thermomechanics, CSAV, Prague (Ustav termomechaniky CSAV)

TITLE: Simulation of the motion of mechanical systems with impacts with an analog computer

14

SOURCE: Automatizace, no. 9, 1965, 235-237

TOPIC TAGS: analog computer, computer simulation, computer memory, motion mechanics

ABSTRACT: The article describes the principle of relay equipment which makes possible the simulation, with an analog computer, of the motion of a mechanical system with impact of a pair of masses, by having integration of memory circuits in those parts of the program where the values change with a jump upon impact. Orig. art. has: 10 figures. [JPRS]

SUB CODE: 09, 20 / SUBM DATE: none / ORIG REF: 003 / SOV REF: 001

Card 1/1 BLG UDC: 531.3: 681.142.07

PETERKA, Frantisek, Ing.

Periodic vibration of a mechanical system with inner impacts.
Stroj cas 16 no.3.314-327 '65.

1. Institute of Thermomechanics of the Czechoslovak Academy of Sciences, Prague. Submitted June 12, 1964.

88319

G/004/61/008/001/003/011
B007/B054

15 1100

AUTHOR: Peterka, J., Engineer ([illegible])

TITLE: Investigation of Czechoslovakian Metal Adhesives

PERIODICAL: Plaste und Kautschuk, 1961, Vol. 8, No. 1, pp. 7-11

TEXT: The adhesive power of all accessible Czechoslovakian metal adhesives was examined by the following procedures: Determination of the tensile and shear strength of a joint between two overlapping duralumin measuring sheets (length of overlap 12.7 mm, jointing area 15 by 20 mm according to Soviet standards) at different temperatures, 15-30 minutes being necessary for the temperature adjustment of the sample according to Epshteyn (Ref. 1), and at room temperature under the action of various solvents. According to measurements made by the Holzforschungsinstitut Bratislava (Wood Research Institute Bratislava) on wood specimens, measured values of compressive and shear strength slightly drop after aging of specimens. The bending strength was studied with metal adhesives by the "bend test" at room temperature: the specimen was fixed on two supports (38 mm apart), loaded over the joint by a wedge (radius 6 mm),

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Investigation of Czechoslovakian Metal Adhesives

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and the pressure required to break the joint was measured. The author discusses the measuring method and states that the measured values obtained according to ASTM specifications do not much deviate from values obtained by Soviet standards. A table gives the test results for 19 adhesives: tensile and shear strength (kg/cm^2): at room temperature: 140-315, at 83°C and 93°C, respectively: 11.3-408, at -75°C and -56°C, respectively: 108-381; tensile and shear strength after the action of sodium chloride solution (30 times 24 hours): 170-296, of drinking water (30 times 24 hours): 145-393, of hydraulic liquid (7 times 24 hours): 125-363, of jet fuel (7 times 24 h): 122-346, of ethanol with 1% benzine (7 times 24 h): 102-360, of hydrocarbon fuel (7 times 24 h): 109-313, of cooling liquid (ethylene glycol : water = 1:1 + 2.5 g/l of Na_2HPO_4, 7 times 24 h): 107-346, of water (100°C, 2 h): 94.5-297, of acetone (2 h): 125-312, of chromosulfuric acid (70°C, 10 min): 102-319. Diagrams show the effect of temperature on the tensile and shear strength: it rises slowly from -80°C to a maximum at about 80°C, then it drops until the strength has attained zero at about 240°C. There are 15 figures, 4 tables, and 4 references: 2 Soviet and 2 US.

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Investigation of Czechoslovakian Metal Adhesives

G/004/61/008/001/003/011
B007/B054

ASSOCIATION: Luftfahrtforschungs- und Luftfahrtprüfungsanstalt Letňany bei Prag, ČSSR (Aviation Research and Test Center Letňany near Prague, ČSSR)

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30594
Z/032/61/011/011/003/005
E112/E535

15.1124 1407

AUTHOR Peterka, J., Engineer

TITLE Properties of some Czechoslovak adhesives (metal to metal bonding)

PERIODICAL Strojírenství, v.11, no.11, 1961, 848-856

TEXT: A number of Czechoslovak adhesives based on epoxy-resins, were tested and compared with foreign products with respect to strength properties in shear by tension loading. Methods of testing and preparation of specimens and test joints are described. Since tests included also frost and heat resistance of the adhesives, the testing machine was provided with appropriate heating and cooling arrangements. Aluminium alloy sheet (according to the Czechoslovak Standard Specification 42 4253.66) was employed for the test. Specimens and methods of testing conformed to Czechoslovak Standard Specifications 66 8510, said to be identical with ASTMD1002-49T. Results of the following tests are summarized in tables and graphs, i.e. 1) Tabulation of shear strength tests (kg/cm^2) of nine Czechoslovak adhesives, carried out at room temperature, at 83 ± 2°C and at -75 to -80°C. Curing conditions

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are indicated and results are expressed in the form of fractions in which the numerator denotes arithmetical means and the denominator maxima and minima of a series of twenty tests. 2) Shear strength test with eleven adhesives of foreign origin carried out according to ASTMD1002-49. Some results for adhesives of foreign origin (originally published in 1956) are quoted. It is concluded that some of the Czechoslovak adhesives are equal to products of foreign origin both at room and elevated temperatures. 3) A comparison of Czechoslovak and Soviet testing methods is given in the following table:

Table 3

Specification ČSN 66 8510	Soviet specification No 596-56
$\frac{170}{210-150}$ (kg/cm^2)	$\frac{169}{182-147}$ (kg/cm^2)

Despite differences in form and dimensions and testing techniques results were practically identical. Tabulated results are supplemented by graphs illustrating temperature effects on the

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Properties of some Czechoslovak //032/61/011/011/003/005
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shear strength of some Czechoslovak epoxy adhesives. A very sharp decrease of strength at temperatures above 80°C is characteristic for many of the products and a similar behaviour is displayed by adhesives of foreign origin. The following additional tests are described: Chemical resistance: a) salt spray, b) tap-water, c) ethyl alcohol + 1% benzine, d) ethylene glycole-water 1 l + 2.5 g Na_2HPO_4 cryst. per 1 litre of the mixture, e) hydraulic fluid LTCIA, f) hydrocarbon fuel LBE, g) jet fuel LRX, h) tap-water, 2 hours at boil, i) aceton, j) pickling solution (chrom sulphuric acid). Results of chemical resistance tests are tabulated for 13 adhesives including products of Czechoslovak and foreign origin. These show that Czechoslovak epoxy adhesives are equal to foreign products. Other tests carried out include: 1) Effect of length of overlap on shear strength, 2) Effect of thickness of metal plates (thinner materials give lower shear strengths); 3) Effect of strength of metal plate on bond strength; 4) Comparisons of bond strengths between tubular and sheet test specimens (shear strengths of the tubular specimens gave higher readings (400 kg/cm^2 against 320 kg/cm^2 for sheet specimens).

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Properties of some Czechoslovak

5) Effect of loading rate on shear strength Czechoslovak specifications stipulate that the cross-bar speed of the testing machine shall not exceed 1 3 mm/min The author has determined however that variations of the rate of loading do not affect significantly the results 6) Bend tests according to Czechoslovak Standard Specification 668511 Round-nosed supports (with a spacing of 38 mm) and loads with a radius of 6 mm were used and breaking strength is expressed by the load (in kg) required to break the specimen (conforming to the Epstein test) It is claimed that all Czechoslovak products compare favourably with adhesives of foreign origin There are 9 tables 9 graphs 8 photographs of testing machines and tubular joint 2 diagrammatic sketches of test specimens and 5 references 4 Soviet-bloc and 1 non-Soviet-bloc The English-language reference reads as follows Ref 2 De Bruyne N A Houwink R Adhesion and adhesives Elsevier Publishing Company London 1951

ASSOCIATION Výzkumný a zkušebni letecký ustav Praha-Letňany (Aviation Research and Testing Station Prague-Letňany)

Card 4 6

Properties of some Czechoslovak

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Table 4

Comparison of breaking strengths of Czechoslovak and foreign adhesives tested according to ČSN 66 8511

Name of adhesive	Breaking strength (kg)	Name of adhesive	Breaking strength (kg)
ČHS Epoxy 110 M	92 110-66	Epon VI	91
ČHS Epoxy 110 L190M	107 129-94	Epon VIII	79
ČHS Epoxy 1001	96.6 105-88.5	Metlbond MNZC	102
ČHS Epoxy 1200 P	113 133-85	FM 47	95
ČHS Epoxy 1200 KP	109 145-95	Metlbond 4021	106

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L 57439-65 EPF(c)/EWP(i)/EWP(v)/EPR/EWP(j)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pc-4/
Pr-4/Pf-4/Ps-4 IJP(c) JD/WW/HM/RM
ACCESSION NR: AP5015843 CZ/0059/64/000/005/0019/0037

AUTHOR: Peterka, J. (Engineer)

TITLE: Metal surface preparation and its effect on bonding properties

SOURCE: Letnany. Vyzkumny a zkusebni letecky ustav. Zpravodaj VZLU, no. 5, 1964, 19-37

TOPIC TAGS: surface finish, metal bonding, surface preparation, epoxy resin, aluminum alloy, magnesium alloy, copper, aluminum bronze, tin bronze, steel, metal adhesion

ABSTRACT: The importance of proper surface preparation before bonding aluminum alloys and other light metals is discussed and a table is given of epoxy adhesives used with two common aluminum alloys, magnesium alloys, conductive copper, Al bronze, Sn bronze and three grades of steel; the table also shows the heat treatment required, and the percentage difference in shear strength between well prepared and poorly prepared surfaces. Five general types of surface roughness are described, distinguishing between those which are advantageous and those which are unsuitable to strengthen bonds against shear and other types of stress, based upon molecular

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L 57439-65

ACCESSION NR: AP5015843

dimensions. This means that the effective contact area is more important than the microsurface. Theories of adhesive force are discussed on the basis of various previous works, including mechanical adhesion, specific adhesion, physical and chemical adhesion, dispersion, and both electrostatic and inductive forces. Since bonded aluminum alloys are most widely used in the aviation industry, pickling processes are described in great detail, including $K_2Cr_2O_7$ as employed at VZLU, temperatures and periods of immersion as they affect shearing strength of various adhesives, and the effect on shearing strength of time intervals between elution and bonding. To evaluate the results of experimental tests, six columnar charts compare the effect on shear strength of 22 methods of preparing the surfaces of various metals for bonding by five types of Czechoslovak epoxies. Orig. art. has: 12 tables and 9 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 001 OTHER: 040

Card 2/2

34067
S/032/62/000/0 2/003/003
E 112/E235.

15.1124

AUTHOR Peterka J. Engineer.

TITLE The technology of metal bonding

PERIODICAL Strojírenství, no 2, 1962. 119-128.

TEXT A review of metal bonding by means of epoxy-resin adhesives of Czechoslovak origin and comparisons with foreign products are presented. The adhesives are listed in two main classes I Solid, ready-made preparations, hardening only at elevated temperatures, applied to preheated metal components (30 min. at 180°C or 60 min at 145°C) Adhesive melts in contact with the preheated metal. Hardening agent is incorporated in the resin. (Czechoslovak products CHS Epoxy 1001, ZV Epoxy 1010 and ZV Epoxy 1020 and Swiss products Araldit I Powder and Araldit I Silver) II. Liquid epoxy adhesives, hardened at room or elevated temperatures on the addition of hardening agents such as dietnylenetriamine, dipropylenetriamine or diethylenetetramine. CHS Epoxy 1200 and ZV Epoxy 1210 belong to this group. Drawback of these epoxies is very short pot-life after the addition of the hardeners. (30 minutes.) A prolonged pot-life is shown by CHS Epoxy 110, hardened with hardener M (6 hours)

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The technology of metal bonding

The preparation of the metal surfaces, prior to application of the adhesive is described in detail for steel, aluminium, magnesium and brass bonds. Various degreasing and pickling methods are described. Excellent degreasing action is produced in many cases by aceton vapours. The efficiency of the different degreasing and pickling procedures is expressed in terms of shear strengths (Czechoslovak Standard Specification 66 8510, practically identical with ASTM: D 1002-49 T), and tabulated. Pickling baths for aluminium surfaces, e.g. potassium dichromate and sulfuric acid, should be used below 60°C, as otherwise pitting may occur. Acetone proved again the best degreasing agent. Special procedures are recommended for the preparation of magnesium surfaces. Degreasing with vapours of trichloretylene are suggested, followed by treatment in caustic soda, rinsing in cold water, pickling in chromium nitrate, followed by ammonium and potassium dichromate. Brass surfaces require pickling in potassium dichromate with optional acetone degreasing. The possible use of ultrasonics to improve adhesion is discussed. The post-

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The technology of metal bonding Z/032/62/000/002/003/003
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effect of ultrasonics upon adhesion is not connected with hardening or polymerisation of the epoxies. Their function is purely physical, causing alternate penetrations and withdrawals of the adhesives into and out of the surface pores of the metal and thus enhancing adhesion. Special case of aluminium alloys. Some workers in this field have asserted that during the bonding of aluminium alloys, temperatures of 145°C should not be exceeded as otherwise losses of tensile strength may occur. The author was unable to confirm these findings (using Czechoslovak aluminium alloy): by a judicious modification of hardening times, temperatures were raised to 200°C without harmful effect upon tensile strength. Results are, however, greatly affected by the method of heating and this is discussed in detail. The great importance attributed to metal bonding in Czechoslovakia is shown by the fact that the Ministry of General Engineering has appointed a special commission to supervise developments in this field.
There are 13 figures, and 14 tables

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