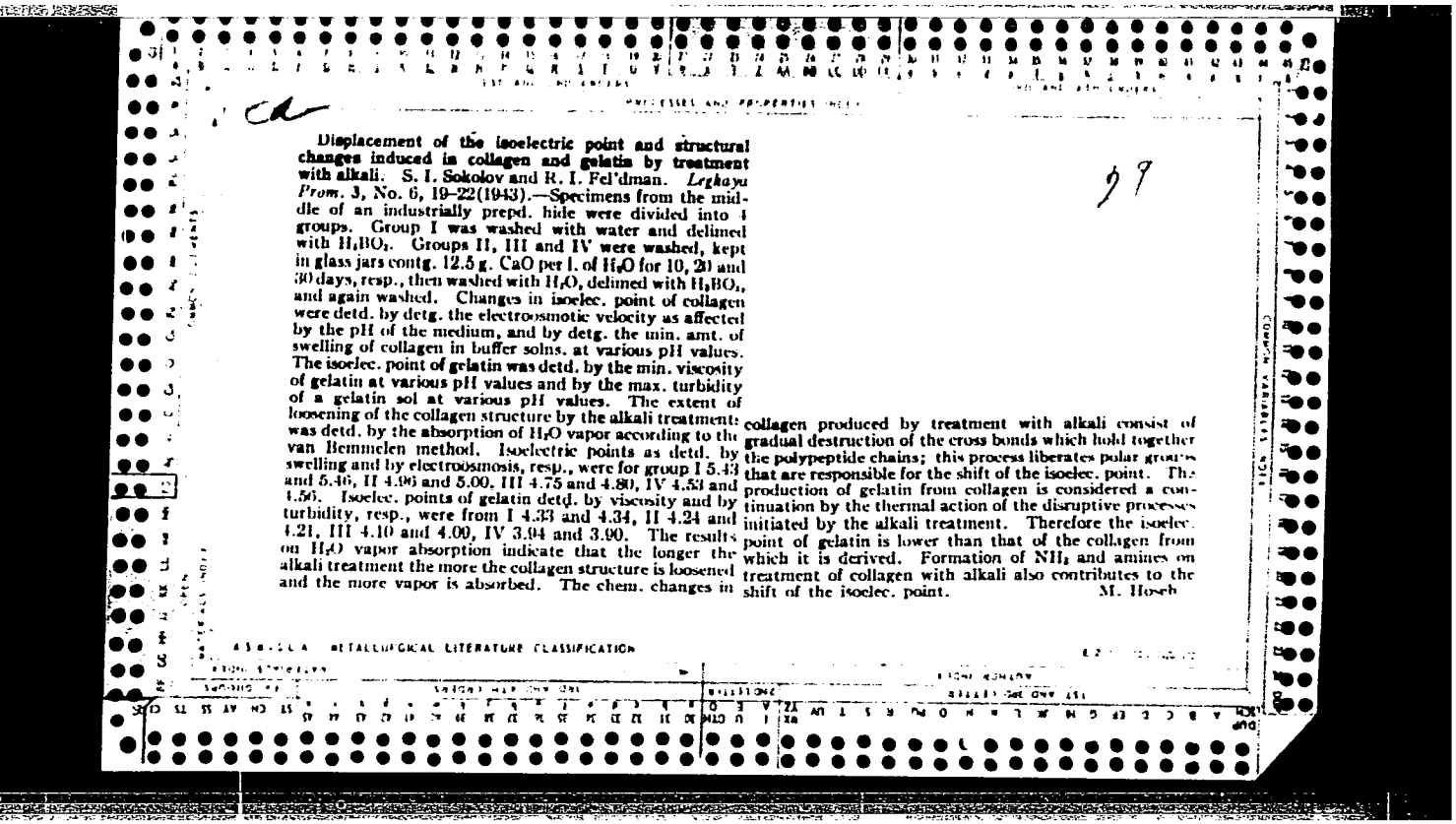
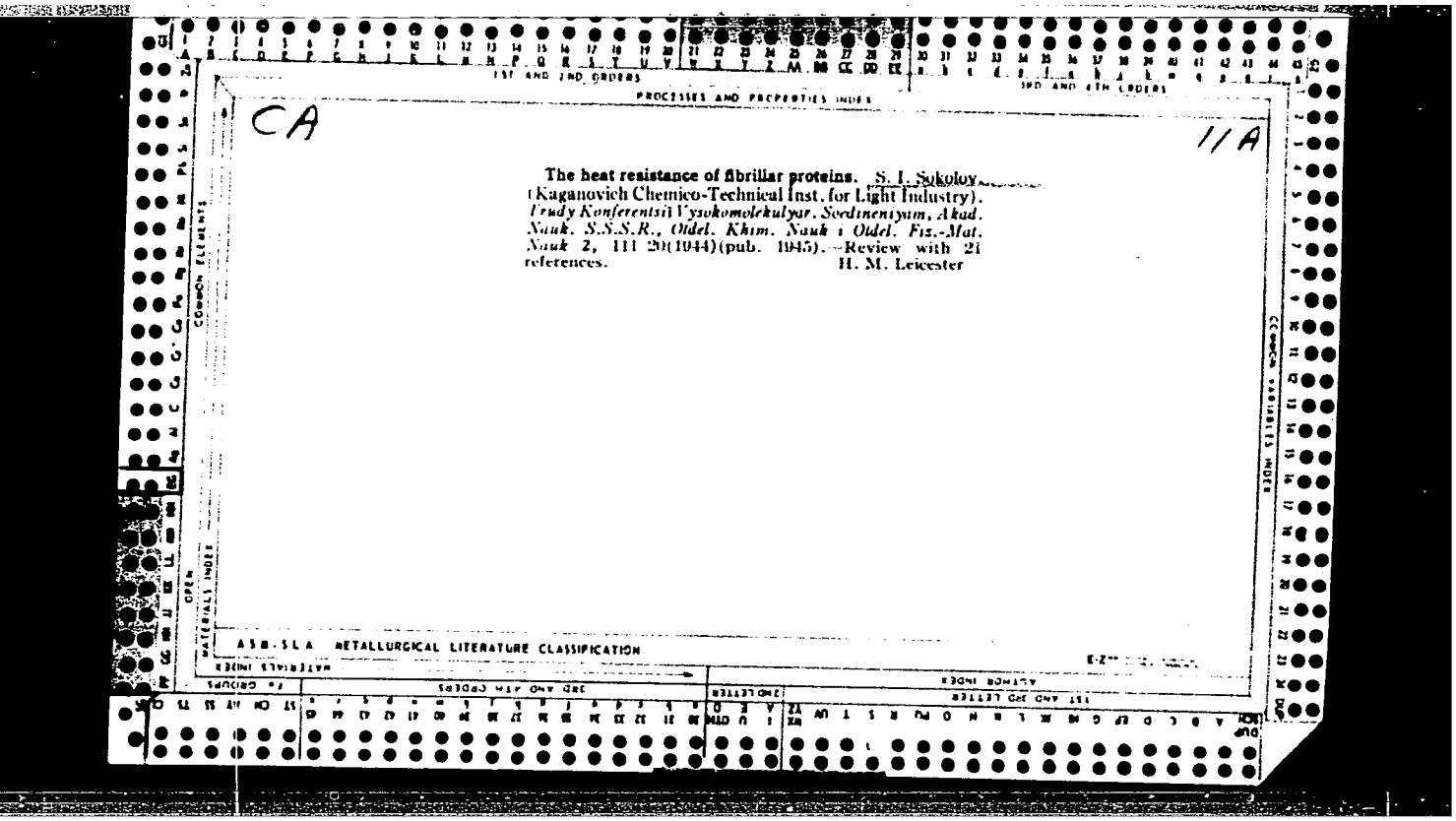


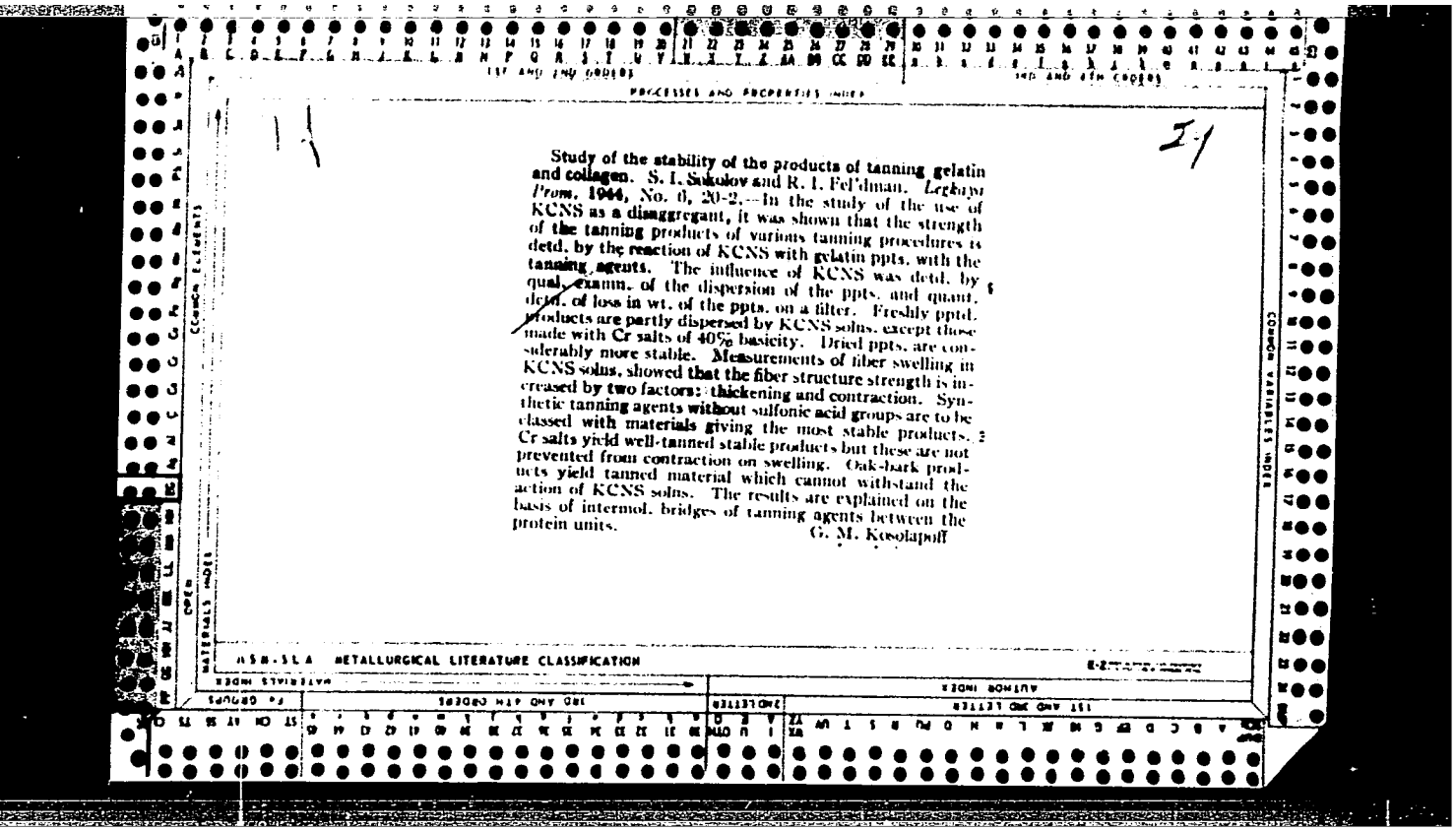
Displacement of the isoelectric point and structural changes induced in collagen and gelatin by treatment with alkali. S. I. Sokolov and R. I. Fel'dman. *Legkaya Prom.* 3, No. 6, 19–22(1943).—Specimens from the middle of an industrially prepd. hide were divided into 4 groups. Group I was washed with water and delimed with H_3BO_3. Groups II, III and IV were washed, kept in glass jars contg. 12.5 g. CaO per l. of H_2O for 10, 20 and 30 days, resp., then washed with H_2O, delimed with H_3BO_3, and again washed. Changes in isoelec. point of collagen were detd. by detg. the electroosmotic velocity as affected by the pH of the medium, and by detg. the min. amt. of swelling of collagen in buffer solns. at various pH values. The isoelec. point of gelatin was detd. by the min. viscosity of gelatin at various pH values and by the max. turbidity of a gelatin sol at various pH values. The extent of loosening of the collagen structure by the alkali treatment was detd. by the absorption of H_2O vapor according to the van Bemmelen method. Isoelectric points as detd. by swelling and by electroosmosis, resp., were for group I 5.43 and 5.46, II 4.96 and 5.00, III 4.75 and 4.80, IV 4.53 and 4.56. Isoelec. points of gelatin detd. by viscosity and by turbidity, resp., were from I 4.33 and 4.34, II 4.24 and 4.21, III 4.10 and 4.00, IV 3.94 and 3.90. The results on H_2O vapor absorption indicate that the longer the alkali treatment the more the collagen structure is loosened and the more vapor is absorbed. The chem. changes in collagen produced by treatment with alkali consist of gradual destruction of the cross bonds which hold together the polypeptide chains; this process liberates polar groups that are responsible for the shift of the isoelec. point. The production of gelatin from collagen is considered a continuation by the thermal action of the disruptive processes initiated by the alkali treatment. Therefore the isoelec. point of gelatin is lower than that of the collagen from which it is derived. Formation of NH_3 and amines on treatment of collagen with alkali also contributes to the shift of the isoelec. point. M. Hoseb



CA

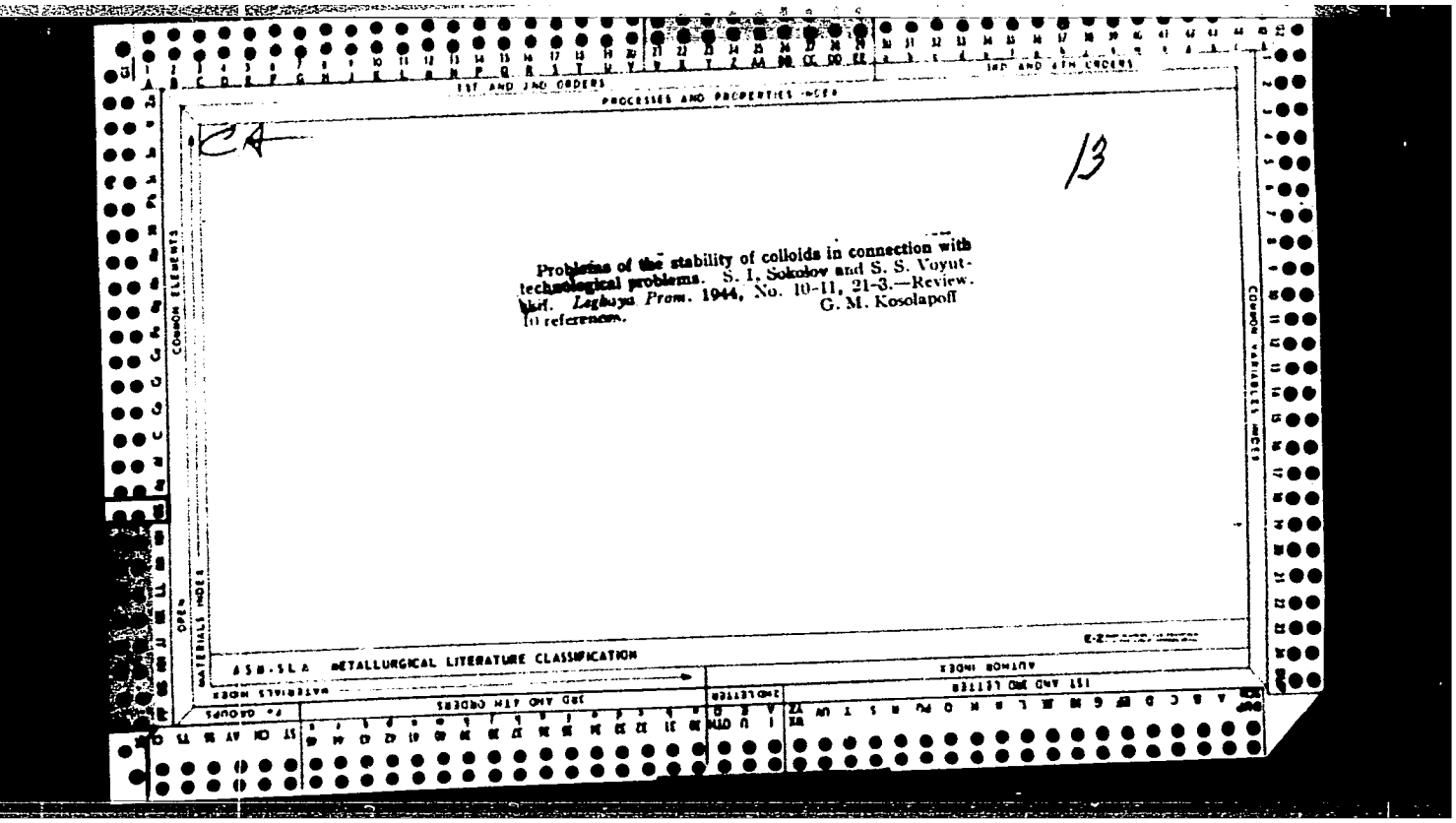
11A

The heat resistance of fibrillar proteins. S. I. Sokolov (Kaganovich Chemico-Technical Inst. for Light Industry). *Trudy Konferentsii Vysokomolekulyar. Soedinenivam, Akad. Nauk. S.S.S.R., Otdel. Khim. Nauk i Otdel. Fiz.-Mat. Nauk* 2, 111-20(1944)(pub. 1945).—Review with 21 references. H. M. Leicester



Study of the stability of the products of tanning gelatin and collagen. S. I. Sokolov and R. I. Fel'dman. *Legkaya Prom.* **1944**, No. 6, 20-2.—In the study of the use of KCNS as a disaggregant, it was shown that the strength of the tanning products of various tanning procedures is detd. by the reaction of KCNS with gelatin ppts. with the tanning agents. The influence of KCNS was detd. by qual. examn. of the dispersion of the ppts. and quant. detn. of loss in wt. of the ppts. on a filter. Freshly ppted. products are partly dispersed by KCNS solns. except those made with Cr salts of 40% basicity. Dried ppts. are considerably more stable. Measurements of fiber swelling in KCNS solns. showed that the fiber structure strength is increased by two factors: thickening and contraction. Synthetic tanning agents without sulfonic acid groups are to be classed with materials giving the most stable products. Cr salts yield well-tanned stable products but these are not prevented from contraction on swelling. Oak-bark products yield tanned material which cannot withstand the action of KCNS solns. The results are explained on the basis of intermol. bridges of tanning agents between the protein units.

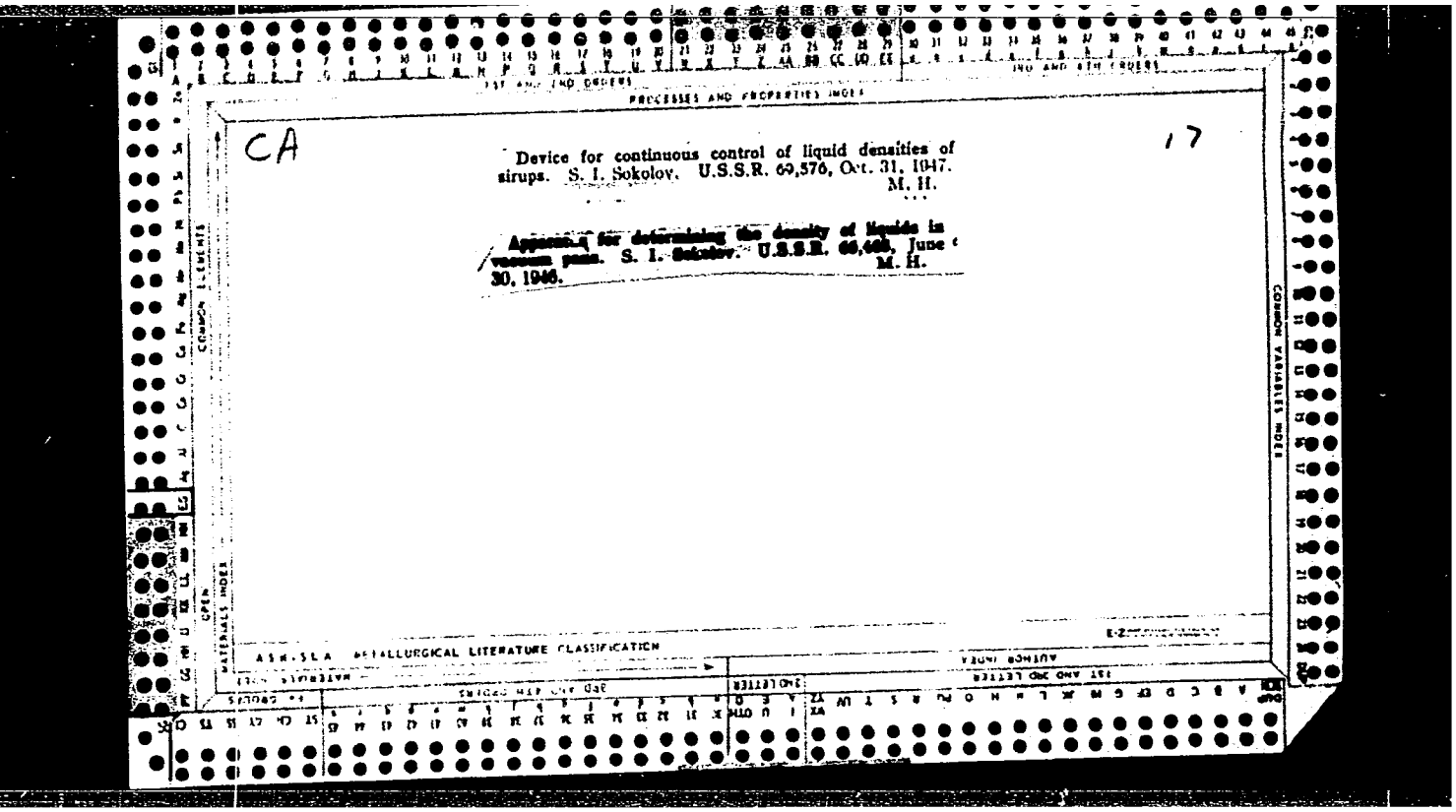
G. M. Kosolapoff



CA

13

Problems of the stability of colloids in connection with technological problems. S. I. Sokolov and S. S. Voyutskii. *Legkaya Prom.* 1944, No. 10-11, 21-3.—Review. 10 references. G. M. Kosolapoff



CA 17

Device for continuous control of liquid densities of sirups. S. I. Sokolov. U.S.S.R. 69,576, Oct. 31, 1947. M. H.

Apparatus for determining the density of liquids in vacuum pans. S. I. Sokolov. U.S.S.R. 66,605, June 30, 1946. M. H.

SOKOLOV, S.E.

Mechanism of action of plasticizers on the physico mechanical properties of high polymers. S. I. Sokolov and R. I. Fel'dman (L. M. Kaganovich Tech. Inst. Light Ind., Moscow). Issledovaniya v Oblasti Vysokomolekul. Soedinenii, Doklady 6-oi Konf. Vysokomolekul. Soedineniyam, Akad. Nauk S.S.S.R. 1949, 329-33.—Examn. of polyvinyl chloride specimens plasticized by esters commonly used in such formulations (undescribed otherwise) is reported in graphical form. Tensile strength of the specimens declines rapidly with increase of the plasticizer concn. to about 4 mole %, after which the decline is considerably reduced but is still appreciable, leading to nearly 0 strength at 28 mole % of the plasticizer. Young's modulus also gave a smooth result, but data on total elongation at rupture were badly scattered. The results seem to indicate the correctness of consideration of the action of such plasticizers on colligative basis, i.e. on the relative no. of mols. introduced into the specimen, regardless of their nature. The work required for film rupture of plasticized specimens reaches a max. at about 6 mole % of the plasticizer, with sharp declines in both directions away from the max. This point corresponds to transition from a brittle state to a highly elastic one. At 14-16 mole % there is also observed a more shallow transformation with less of strength and increased fluidity. Polyvinyl chloride films show elongation that is linear in respect to temp. at low temps., then undergo a transition after which the further progress shows a complex relation. Plasticizers displace this point to lower temp. and phthalates and phosphates give the same result. The heat effect of the transition is about 4200 kcal./mole. G. M. Kosolapoff

FEL'DMaN, R.I.; SOKOLOV, S.I.

State of aggregation of high-molecular compounds. Linear thermal expansion and physicomechanical properties of some polymers. Khim. i Fiz. Khim. Vysokomolekul. Soedineniy Doklady 7-oy Konf. Vysokomolekul. Soedineniyam '52, 159-67. (MLRA 5:7)
(CA 47 no.16:7860 '53)

1. Moskov. Tekhnol. Inst. Legkoy Prom. im. L.M.Kaganovicha.

FCHELIN, Valentin Aleksandrovich, doktor khimicheskikh nauk ;SOKOLOV, S.I. professor, doktor tekhnicheskikh nauk, retsenzent; PLYUSNIKOV, M.N. redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor.

[Measuring the activity of hydrogen ions (pH) and oxidation-reduction potentials, and potentiometric titration] Izmerenie aktivnosti vodorodnykh ionov (pH), okislitel'no-vosstanovitel'nykh potentsialov i potentsiometricheskoe titrovanie. Moskva, Gos.nauchno-tekhn.izd-vo Ministerstva promysh1.tovarov shirokogo potrebleniia SSSR, 1955. 205 p.
(Potentiometric analysis) (MLRA 8:12)
(Hydrogen-ion concentration)

PISARENKO, A.P.; SOKOLOV, S.I.

About the book eg S.S.Veiutskii and B.V.Shtarkh "Physicochemical processes in the formation of films form high-polymer dispersions." Reviewed by A.P.Pisarenko, S.I.Sokolev. Koll.zhur.17 no.6:475-476 N-D '55. (MLRA 9:4)
(Rubber, Synthetic)(Veiutskii, S.S.)(Shtarkh, B.V.)

Sokolov, S. I.

9349

NEW MATERIAL "GLIFTAMAL" FOR TESTING STRESS OF FLAT MODELS BY USING POLARIZATION-OPTICAL METHOD. M. F. Bokshtein, N. I. Prigorovskii, S. I. Sokolov, and N. A. Shchegolevskaya. Izvest. Akad. Nauk S.S.S.R. Otdel. Tekh. Nauk No. 2, 139-41(1956) Feb. (In Russian)

A new type material "gliftamal" was developed for testing flat models at room temperature with reduced polymerization. "Gliftamal" is the product of pentaerythrite, glycerin, and diethylene glycol condensation with maleic and phthalein anhydrides. The material has a solidification time of 2 months. Disk-shaped samples were tested in polariscopes under diameter compression. The relations of m layers to the stresses and to the length of time render stress were determined. Selected samples showed optic proportionality of 30 bands calculated for 7 mm thickness. Tabular results are given. (R.V.J.)

Sokolov, S. I.

Distr: 4E4j/4E2c(j)

1038. Effect of plasticizing agents on the hydrogen permeability of polyvinyl chloride. S. I. Sokolov, S. A. Reitlinger and R. L. Fel'dman. *Kol. Zh.*, 1957, 19, 624–8. It was found that the plasticiser affects the permeability of polymer films differently depending upon the state of the polymer, namely whether vitreous or elastic. The greatest increase in permeability was observed for the high elastic state. In this state the logarithm of the permeability is a linear function of the molar fraction of the plasticiser. The permeability extrapolated to unit molar fraction of plasticiser increases approximately linearly with the number of carbon atoms in the alkyl groups of the phthalates used as plasticisers. There are 14 references.

—3S2H21.54266

4
2 May
2

SHCHEGOLEVSKAYA, N.A., kand. tekhn. nauk; SOKOLOV, S.I., doktor tekhn. nauk, prof.; KHESIN, G.L., inzh.; PRIGOROVSKIY, N.I., doktor tekhn.nauk, prof.

Optically active materials with various elastic moduli used in investigating stresses by polarization-optical methods. Izv. vys. ucheb. zav.; mashinostr. no.3/4:72-83 '58. (MIRA 12:5)

1.Moskovskiy institut khimicheskogo mashinostroyeniya (for Sokolov). 2.Moskovskiy ordena Trudovogo Znameni inzhenerno-stroitel'nyy institut im. V.V. Kuybysheva (for Khesin). 3.Institut mashinovedeniya AN SSSR (for Prigorovskiy).
(Resins, Synthetic) (Strains and stresses)

SOKOLOV, S I

15

Distr: 4E2c(j)/4E4j/
4F1/4E4f

Effect of plasticizer additions on the mechanical properties of copolymers of vinyl chloride with vinylidene chloride and of poly(vinyl chloride). R. L. Fel'dman, A. K. Mironova, and S. I. Sokolov (Technol. Inst. Consumer Ind., Moscow). *Kolloid. Zhur.* 20, 106–9(1958); cf. *C.A.* 50, 11711b.—The breaking stress σ, and the elasticity modulus E, of plasticized copolymer of CH_2:$CHCl$ 77 + CH_2:CCl_2 23 (I) and of a plasticized poly(vinyl chloride) (II) were equal to $\sigma_1 \sigma_2^{-n}$ and $E_1 E_2^{-n}$, resp., if σ_1 and E_1 are σ and E of the unplasticized polymer, σ_2 and E_2 are consts. of the plasticizer (e.g., 3 to 6 $\times 10^{-4}$ kg. wt./sq. mm. and about 3 $\times 10^{-4}$ kg. wt./sq. mm. for tritolyl phosphate (III)), and n and 1-n are the mole fractions of a polymer (reckoned as monomer) and plasticizer, resp. The equations were valid for I between n = 0.82 and 0.95 when III, and between n = 0.77 and 0.97 when di-Bu phthalate (IV) was the plasticizer; and for II between n = 0.92 and 0.99, 0.94 and 0.99, and 0.91 and 0.97 when III, IV, or a chlorinated biphenyl was added. The values of ρ_2 and E_2 depended very little on the polymer. J. J. Bikerman

1/1

8
2 May
4

AUTHORS: Fel'dman, R.I.; Sokolov, S.I. 69-20-3-21/24

TITLE: The States of Aggregation of High Molecular Compounds (O sostoyaniyakh agregatsii vysokomolekulyarnykh soyedineniy) 2. Study of the Linear Expansion of Gutta-Percha (2. Izucheniye lineynogo rasshireniya guttaperchi)

PERIODICAL: Kolloidnyy zhurnal, 1958, vol XX, Nr 3, pp 388-394 (USSR)

ABSTRACT: Gutta-percha exists in two principal modifications which have been detected by roentgenological and electronographical methods. These modifications are differentiated by the position of the various chain links and the chains themselves. Gutta-percha films on different supports have been studied according to their states of aggregation. For this purpose they were heated and cooled and their linear dimensions measured. A film of gutta-percha R (Figure 1) has been tested and measured. At a temperature of 58 - 62°C it became transparent, which means that this temperature is the melting point of the crystals and the transition point to the amorphous state. Figure 1 also shows the dependence of the length of a film of gutta-percha R, which had been heated in water to 80°C and then cooled to 15°C, on temperature. The two curves are similar, but the linear expansion is different.

Card 1/2

The States of Aggregation of High Molecular Compcunds. 2. Study of the Linear Expansion of Gutta-Percha

The same curve for gutta-percha S is shown in Figure 2. This type of gutta-percha was in an unstable state with interior stresses. A contraction and expansion process was active in the sample at the same time. In the temperature interval of 27 - 42°C, these processes compensate for one another. The temperature dependence of gutta-percha which has been preliminarily extended close to the breaking point is very slight (Figure 3). The thermal treatment of the samples is regarded as influencing the molecular packing of the gutta-percha as well as the stability of the system.

There are 6 graphs, 1 table, and 25 references, 11 of which are Soviet, 8 English, 4 German, and 2 American.

ASSOCIATION: Moskovskiy tekhnologicheskiy institut lëgkoy promyshlennosti (Moscow Technological Institute of Light Industry)
Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine-Building)

SUBMITTED: April 15, 1957

Card 2/2

1. Rubber—Test methods 2. Rubber—Test results

AUTHORS: Shchegolevskaya, N.A., Sokolov, S.I. 32-24-4-66/67

TITLE: An Optical Active Material "Epoksiftamal" (Opticheski aktivnyy material "Epoksiftamal")

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 4, pp. 511-511 (USSR)

ABSTRACT: The method of producing an optically active artificial resin is described which, according to TsNIITMASh at 20° possesses a longitudinal elasticity modulus of 35000-40000 kg/cm² and an optical layer thickness constant of 10 mm - 11 kg/cm; at 120° these values are 150 kg/cm² and 0.2 kg/cm respectively; at 120° C, the Poisson ratio is 0.5 with a low boundary effect. From the technique of production it follows that as initial product epoxy resin E -40 or ED -6 is used. The former is obtained from epichlorhydrin and phenylolpropane and contains 14-20% epoxy groups, 8% of which are volatile; their saponification number is 10 and their molecular weight 600-700 (without chlorine). The resin E -40 is hardened by means of a mixture of maleic- and phtalic anhydride and a technique is applied which makes it possible to obtain larger, homogeneous, and faultless specimens.

Card 1/2

An Optical Active Material "Epoksiftamal" 32-24-4-66/67

From the technique of working mentioned it may be seen that a thermopolymerization of longer duration is carried out. Instead of one part maleic anhydride phtalic anhydride may be used but this is, however, not possible in the case of ED-6 resin.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute for Chemical Machine Construction)

1. Plastics---Optical properties 2. Plastics---Production
3. Plastics---Properties 4. Phthalic anhydride---Performance

Card 2/2

5(3), 15(8)
AUTHORS: Shchegolevskaya, N. A., Sokolov, S.I. SOV/156-59-2-34/48

TITLE: Some Peculiarities Concerning the Kinetics of the Process of Copolymerisation of Unsaturated Polyesters and Vinylmonomers Under Formation of a Three-dimensional Structure (Nekotoryye osobennosti kinetiki protsessa sopolimerizatsii nepredel'nykh poliefirov i vinil'nykh monomerov s obrazovaniyem prostranstvennoy struktury)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 350-353 (USSR)

ABSTRACT: The reaction mentioned in the title has been investigated on diethyleneglycolpolyesters of the sebacin- and malein-acids and a mixture of styrene and methylmetacrylate. The dilatrometric investigation showed that the reaction develops in an S shaped curve. The polymerisation process shows several phases. The first phase (smoothly rising curve) can be understood as induction period. The concentration of the free radical is increasing. During the second stage, the curve takes a linear course - the concentration of the free radical remains constant. The reaction develops in an equilibrium state. From the inclination of the straight portion, the activation energy is

Card 1/2

Some Peculiarities Concerning the Kinetics of the Process of Copolymerisation of Unsaturated Polyesters and Vinylmonomers Under Formation of a Three-dimensional Structure

computed as 16,000 cal/mol. During the last phase the curve flattens out to an abscissa. A contraction of the volume occurs, the process slows down, not only through the consumption of the double compounds, but also through high viscosity and gel formation. There are 1 figure and 3 references, 1 of which is Soviet and 1 Hungarian.

PRESENTED BY: Kafedra fizicheskoy khimii Moskovskogo instituta khimicheskogo mashinostroyeniya (Chair for Physical Chemistry Moscow Institute of Machine Building for the Chemical Industry)

SUBMITTED: November 5, 1958

Card 2/2

5(1,3)

AUTHORS: Shchegolevskaya, N. A., Netrebko, V. P., SOV/153-2-2-26/31
Skoryy, I. A., Sokolov, S. I.

TITLE: Polymer Materials for Models of the Polarization-optical Method of Examination of the Tension (Polimernyye materialy dlya modeley polyarizatsionno-opticheskogo metoda issledovaniya napryazheniy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 2, pp 280-286 (USSR)

ABSTRACT: The demands made on the method mentioned in the title with regard to the materials used, have considerably increased because the tasks became more complicated and manifold. The present paper continues the authors' previous investigations in this direction. It concerns the examination-method mentioned in the title, of tensions on the basis of products of combined condensation and polymerization (Refs 2-4). The authors further developed the previously prepared ways of the variation of the structure and properties of materials and investigated some more possible and at present topical ways, in order to obtain materials with various properties. The optically-sensitive materials looked for, are based

upon products of common polymerization of unsaturated polyesters and monomers. Apart from diethylene glycol, sebacine, and maleic acid, phthalic anhydride, as well as terephthalic acid, tung-oil, linseed-oil, castor-oil, and caprolactam were used as initial chemical agents for the manufacture of polyester. Besides styrene and methylmethacrylate, acrylo-nitril also served as monomer. After an introduction, the experimental part is subdivided into the following chapters: a) Examination of the influence of a partial replacement of the sebacine-acid in the polyesters by phthalic anhydride, terephthalic acid, and terephthalic-dimethylester; b) Examination of the influence of a partial replacement of the sebacine-acid in the polyesters by castor-, tung-, and linseed-oil (Fig 3), as well as by a mixture of these oils; c) Examination of the influence of an addition of caprolactam; d) Examination of the influence of the replacement of part of the methyl-methacrylate and styrene by acrylonitryl. On the basis of the obtained results, the authors arrive at the following conclusions: 1) The task of producing optically-sensitive materials according to the

Polymer Materials for Models of the Polarization-optical Method of Examination of the Tension

SOV/153-2-2-26/31

"freezing"-method (metod zamorazhivaniya) on a polyester basis, which are analogous to the material "MIKhM-ImaSh", which however are distinguished by their optical-mechanical characteristics, was solved by varying the combination of the initial components, and the method of condensation- and polymerization-reaction, respectively. 2) Among a number of test samples, stiffer materials with an increased modulus of elasticity compared with "MIKhM-ImaSh", and less stiff-ones (with decreased modular values) up to materials with signs of liquid state were produced. 3) The following can be used as structure-forming factors: a) increase of phthalic acid contents in polyesters and b) increase of the content of polyesters in the mixture with monomers (styrene and methyl-methacrylate). The introduction of the two mentioned factors is specially effective for the modular increase. The optical sensitivity can be increased by raising the styrene contents in the monomer-mixture. 4) The mentioned vegetable oils were used with positive results as fluxing agents which come into reaction with other components, (effect of the "inner plastification").

Card 3/4

Polymer Materials for Models of the Polarization-optical Method of Examination of the Tension SOV/153-2-2-26/31

5) Caprolactam and acrylo-nitryl strongly accelerate the reaction of the common polymerization in the presence of benzoyl-peroxyde. The polymerization-process must, therefore, be carried out at a lower initial temperature.
6) The introduction of acrylo-nitryl at the expense of other monomers reduces the optical sensitivity of the finished product with a simultaneous increase of the elasticity-modulus. There are 4 figures, 1 table, and 4 Soviet references.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya i Moskovskiy gosudarstvennyy universitet imeni N. V. Lomonosova; Kafedra fizicheskoy khimii i kafedra teorii uprugosti (Moscow Institute of Chemical Engineering and Moscow State University imeni M. V. Lomonosov; Chair of Physical-chemistry and Chair of the Theory of Elasticity)

SUBMITTED: May 6, 1958

Card 4/4

VOYUTSKIY, Sergey Sergeyevich, prof., doktor khim.nauk; SOKOLOV, S.I., doktor tekhn.nauk, retsenzent; RAZUMOVSKAYA, Ye.V., red.; KNAKNIN, M.T., tekhn.red.

[Autohesion and adhesion of high polymers] Autogeziia i adgeziia vysokopolimerov. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1960. 241 p. (MIRA 13:8)
(Polymers) (Adhesion)

PHASE I BOOK EXPLOITATION SOV/4042

Leningrad. Universitet

Polyarizatsionno-opticheskiy metod issledovaniya napryazheniy; trudy konferentsii 13-21 fevralya 1958 goda (Optical Polarization Method for Stress Analysis; Transactions of the Conference of February 13-21, 1958). [Leningrad] Izd-vo Leningradskogo univ., 1960. 451 p. Errata slip inserted. 2,400 copies printed.

Resp. Ed.: S.P. Shikhobalov; Ed.: Ye.V. Shchemeleva; Tech. Ed.: S.D. Vodolagina; Editorial Board: S.G. Gutman, L.N. Kacharov, V.M. Krasnov, T.D. Maksutova, N.I. Prigorovskiy, V.M. Proshko, N.S. Rozanov, and Ye.I. Edel'shteyn.

PURPOSE: This collection of 58 articles is intended for scientists and engineers concerned with experimental stress analysis of machine parts and structural components.

COVERAGE: The collection contains reports presented at the conference on optical polarization methods in stress analysis held February 13 - 21, 1958, in Leningrad and attended by 324 delegates including representatives of the People's Republic of China, the Polish People's Republic, the German Democratic Republic, and the Republic of Czechoslovakia. The reports discuss general theoretical problems and new methods of investigation and describe apparatus and materials used in the optical method. Solutions of specific two-dimensional and three-dimensional problems occurring in shipbuilding, aircraft design, engine construction, in various branches of heavy and precision machine design, in mining, metallurgy, hydraulic structures, railroad transport, in structural mechanics, geodynamics, in the control of stresses in products of the glass and electronic industry, etc., are given. Solution of the three-dimensional problem by means of the method of photoelasticity is introduced and the use of this method for the solution of problems associated with plasticity, creep, dynamics, hydrodynamics, etc., is demonstrated. Reports previously published elsewhere are printed here in abbreviated form. No personalities are mentioned. References are found at the end of 47 of the reports.

Card 5/12

7

Sokolov, S.I.

5.3830

69680

AUTHORS: Shchegolevskaya, N. A., Osokina, D. N., Gzovskiy, M. V., Sokolov, S. I.

S/153/60/003/01/047/058
B011/B005

TITLE: Polymeric Materials With Different Physicomechanical Characteristics for Stress Investigations by the Optical Method

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol 3, Nr 1, pp 172-175 (USSR)

TEXT: The authors proved the possibility of producing photoelastic substances with high optical activity and a wide range of elasticity moduli (up to gel-like substances of the gelatin-jelly type). These substances are produced on the basis of copolymers of unsaturated polyesters, of styrene, and of glyphthal and epoxide resins. These materials had manifold, given physicomechanical properties. The authors paid special attention to the production of plastics with a viscosity (η) of 10^4 - 10^7 poise, an elasticity modulus E = 10^{-1} - 10^1 kg/cm^2, and a high optical activity. Products of copolymerization of unsaturated esters and vinyl monomers have a reticular structure. Products with different optical and mechanical properties can be obtained by changing the number of chemical bonds between the molecules. For this purpose, saturated dicarboxylic acids (e.g. sebacic acid) are introduced besides unsaturated maleic acid, and the number of individual monomers (e.g. styrene) is varied. In contrast to previous papers, the authors investigated polyesters obtained with the use of reduced amounts of maleic acid

Polymeric Materials With Different Physicomechanical Characteristics for Stress Investigations by the Optical Method

and an excess of diethylene glycol (according to Ref 3). It was proven that the maximum amount of sebacic acid must not exceed that of maleic acid (1:1), or the product would become opaque. Benzoyl peroxide (0.1 - 1%) was added to the mixture. Polymerization was carried out at 20-40°. The polyester - styrene ratio was varied between 2:1 and 500:1. Optically active substances with $E = 0.2 - 20$ kg/cm^2 and a coefficient of optical activity B_σ = 100-1000 brewster (10^{-13} cm^2/dyn) were obtained with styrene at a ratio of sebacic and maleic acid in polyesters of 2:1, and acid : diethylene-glycol of 2:3. Even at a polyester - styrene ratio of 1:500, they remained gelatinous. The figure (p 174) shows that both the modulus E and the optical activity of the polymer considerably increase with increasing styrene content. Modified glyphthal resins are condensation products of polyatomic alcohols (pentaerythrite, glycerin, diethylene glycol) with phthalic and maleic acid (Ref 4). They are called "gliftamal". They are suited for work at room temperature, having E = 50,000 kg/cm^2 and B_σ = 36 brewster. Very transparent substances with $\eta = 10^4 - 10^7$ poise, and $B_\sigma = 2.10^3$ brewster can be

69680

Polymeric Materials With Different Physicomechanical Characteristics for Stress Investigations by the Optical Method

S/153/60/003/01/047/058
B011/B005

SUBMITTED: April 10, 1959

Card 4/4

FEL'DMAN, R.I.; SOKOLOV, S.I.

State of aggregation of high molecular weight compounds. Part 6: Rupture characteristics of anisotropic polycaprolactam films. Koll.zhur. 22 no.1:97-100 Ja-F '60. (MIRA 13:6)

1. Moskovskiy institut khimicheskogo mashinostroyeniya i Moskovskiy oblastnoy pedagogicheskiy institut imeni N.K.Krupskoy.
(Films (Chemistry)) (Hexamethylenimine) (Polymers--Testing)

SOKOLOV, S.I.

15.8110 also 2209

S/032/60/026/009/014/019
B015/B058

AUTHORS: Shcherbakovskaya, E. A., Morozov, B. A., Sokolov, S. I., Kopylov, V. D., Sokolov, S. I.

TITLE: The Use of Epoxy Resin of the Type Epoxy-CHS-2209 for the Polarization-optical Method

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 9, p. 1149

TEXT: An optically active synthetic resin was obtained by using the Chelyabinskiy epoxy resin of the type Epoxy-CHS-2200 with phthalic anhydride as hardener. The resin mentioned differs from the much used epoxy resins of the type DAO (ED0) and DAG (ED6) by having a lower viscosity, and a homogeneous mass being nevertheless obtained with phthalic anhydride. 40 g of anhydride (40 g) is added to the epoxy resin (100 g) heated to 120°C, the mass is carefully mixed, poured into preheated molds, and left in the thermostat for 24 hrs at 100°C and then for 21 hrs at 120°C. The properties of the resin are tabulated. There are 1 table and 1 Soviet reference.

Card 1/2

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Construction). Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskogo mashinostroyeniya (All-Union Scientific Research Institute of Metallurgical Machine Construction). Moskovskiy gosudarstvennyy universitet (Moscow State University)

Card 2/2

SHORIN, S.N., doktor tekhn. nauk, prof., red.; SHCHEPKIN, S.I., zasl. deyatel' nauki i tekhniki, prof., otv. red.; LASTOVTSEV, A.M., prof. red.; KARAVAYEV, N.M., prof., red.; KOKOREV, D.T., prof., red.; PETROKAS, L.V., prof., red.; RESHCHIKOV, P.M., dots., red.; SOKOLOV, S.N., prof., red.; SOKOLOV, S.I., prof., red.; KHODZHAYEV, A.M., dots., red.; LEBEDEV, K.I., kand. tekhn. nauk, dots. red.; TAIROVA, A.L., red. izd-va; UVAROVA, A.F., tekhn. red.

[Investigation and calculation of heat engineering and power generating processes] Issledovaniia i raschety teploenergeticheskikh i energo-khimicheskikh protsessov; sbornik statei. Pod red. S.N.Shorina. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 137 p. (MIRA 14:10)

1. Moscow. Institut khimicheskogo mashinostroyeniya.
(Heat engineering) (Power engineering)

SHCHEGOLEVSKAYA, N.A.; SOKOLOV, S.I.

Materials for models used in the polarization-optical method for the measurement of stresses. Plast.massy no.8:30-34 '61. (MIRA 14:7)

(Plastics--Optical properties)

KHESIN, G.L., kand.tekhn.nauk; SAVOST'YANOV, V.N., inzh.; SHCHEGOLEVSKAYA, N.A., kand.tekhn.nauk; LESNICHIY, Yu.N., inzh.; SOKOLOV, S.I., doktor tekhn.nauk

Large blocks of optically acitve materials with unlike modulus for models simulating the optical polarization method. Shor. trud. MISI no.35:114-123 '61. (MIRA 14:9)

1. Moskovskiy inzhenerno-stroitel'nyy institut im. V.V.Kuybysheva (for Savost'yanov). 2. Moskovskiy institut khimicheskogo mashinostroyeniya (for Sokolov).
(Synthetic products) (Optics, Physical)

29983
S/069/61/023/006/005/005
B119/B101

15.1125

AUTHORS: Fedoseyeva, Ye. G., Fel'dman, R. I., Sokolov, S. I.

TITLE: Interaction of polymers with plasticizers. 1. Preparation and properties of polyvinyl chloride pastes

PERIODICAL: Kolloidnyy zhurnal, v. 23, no. 6, 1961, 749 - 755

TEXT: The authors studied structure and phase composition of the pastes and to elaborate a basic process for their use. The pastes used for the investigation were prepared from powdery polyvinyl chloride (PVC) of the type Igelit-R, Igelit-F, ПБ-1 (PB-1), ПБ-2 (PB-2), ПБ-3 (PB-3), ПБ-4 (PB-4), and esters of the phthalic, phosphoric, and sebacic acid as plasticizers with or without addition of fillers and pigments, respectively. Solutions of 2 - 5.75% PVC in plasticizers, as well as solutions of chlorinated PVC, polychloroprene, polystyrene, polymethacrylate, and nitrile rubber were used as dispersion agents. The pastes were prepared by mixing the components for 30 to 40 min and subsequent treatment in the color mill. Example of a composition in parts by weight: (PB-1) 37, lead silicate 6, dibutyl phthalate 15, tricresyl phosphate 20, dioctyl

Card 1/3

SHAMRAYEVSKAYA, T.A., LESNICHIY, Yu. N., SHCHEGOLEVSKAYA, N.A., SOKOLOV, S.I.

Study of the conditions for mutual compensation of the effects due to positive and negative birefringence.

Report presented at the 13th Conference on the high-molecular compounds Moscow, 8-11 Oct 62

41468

S/153/62/005/004/006/006
E075/E436

10.9100

AUTHORS: Shchegolevskaya, N.A., Sokolov, S.I., Polukhin, P.I., Vorontsov, V.K.

TITLE: On the polymeric coatings on metals for the study of plastic deformations by the optical method

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, v.5, no.4, 1962, 647-652

TEXT: A possibility was investigated of obtaining optically sensitive layers, based on epoxy resins and polyesters, suitable for the investigation of sufficiently large plastic deformations of metals. It was found that the coatings with different maximum deformations, optical sensitivity and adhesiveness can be produced from epoxy resins and various polyesters of dibasic acids and glycols, polyesteracrylates and dibutylphthalate as plasticizers. They could also be produced by changing the conditions of curing, both hot and cold curing processes being suitable. For hot curing, maleic and phthalic anhydrides are used as curing agents; for cold curing, polyethylenepolyamines. A method of gradual heating was employed to produce the coatings without any residual

Card 1/2

S/069/62/024/002/007/008
B110/B101

AUTHORS: Fedoseyeva, Ye. G., Fel'dman, R. I., Sokolov, S. I.

TITLE: Interaction of polymers with plasticizers. 2. Gelatinization of polyvinyl chloride pastes and the properties of the films obtained from them

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 2, 1962, 230 - 235

TEXT: The following changes take place during the gelatinization of PVC pastes (20-40 min, 140 - 185°C): (1) the decrease in viscosity of the PVC suspension at 20 - 40°C is caused by the decrease in viscosity of the dispersion medium. Between 40 and 90°C, viscosity of the system increases rapidly on account of its gradual gelatinization, and above 90°C viscosity again decreases normally. (2) The change in the mechanical rupture characteristics depends on the gelatinization temperature and time; the conditions of gelatinization depend on the composition of the paste. Films made from pastes filled with chalk, titanium dioxide, barium titanate, kaolin, talcum, magnesium oxide, and litharge showed lower tensile properties and greater hardness. Addditional 30 days heat treatment at 120°C

Card 1/3

Interaction of polymers ...

increased the tensile strength from ~27 - 43 kgf/cm^2 to ~47 - 90 kgf/cm^2, changed the relative rupture elongation, and lowered linear strain coefficients. Study of the decomposition temperatures showed that lead compounds proved to be better stabilizers than compounds of other metals. (3) The changes in the electrical characteristics of PVC films were determined in: (a) electrical bulk resistivity (2000 v, direct reading compensation bridge), (b) dielectric permeability and tangent of dielectric loss angle (Schering bridge, 1000 v, 50 cps, 1 min), (c) disruptive strength (cylindrical electrodes dipped into tricresylphosphate, rate of voltage increase 1 kv/sec). The electrical characteristics depend on the quantitative ratio of polymer to plasticizer, on the physical and chemical properties of the plasticizer and on the paste ingredients. Graphite added increases the film conductivity, and the bulk resistivity amounts to $\cdot 10^3$ ohm·cm. A study of the dependence of the bulk resistivity on the component ratio showed that the curves ρ versus composition of the polymer systems PVC + tricresylphosphate, PVC + dibutylphthalate, PVC + dioctylphthalate coincide up to a plasticizer content of 45 - 55% by weight. (4) The change in water absorption with temperature and time shows a

maximum at 20 ± 1°C. The aforementioned mechanical, electrical and other properties of PVC films show that blocks, films, etc., having important properties for engineering can be obtained by gelatinization. There are 5 figures and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti, Moskva (Scientific Research Institute of the Cable Industry, Moscow) Moskovskiy oblastnoy pedagogicheskiy institut im. N. K. Krupskoy (Moskovskaya oblast' Pedagogical Institute imeni N. K. Krupskaya)

SUBMITTED: October 20, 1960

SOKOLOV, S.I.; SHAMRAYEVSKAYA, T.V.; SHCHEGOLEVSKAYA, N.A.

Polymeric materials for the optical polarization method of stress determination. Part 1: Polymerization products in a ternary system of vinyl monomers and methods for the study of their thermomechanical properties. Vysokom.soed. 5 no.8:1250-1254 Ag '63. (MIRA 16:9)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.
(Vinyl compounds) (Polymerization) (Polarization (Light))

SHAMRAYEVSKAYA, T.V.; SOKOLOV, S.I.

Polymeric materials used in the optical polarization method of stress determination. Part 3: Effect of various factors on the optical and mechanical properties of polymerization products in the ternary system of vinyl monomers. Vysokom. soed. 5 no.12:1790-1794 D '63. (MIRA 17:1)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

S/069/63/025/002/009/010
A057/A126

AUTHORS: Fedoseyeva, Ye.G., Fel'dman, R.I., Sokolov, S.I.

TITLE: On the polymer-plasticizer interaction. 3. Investigation of stability factors and phase transitions in dispersions of polymer in plasticizers (pastes)

PERIODICAL: Kolloidnyy zhurnal, v. 25, no. 2, 1963, 247 - 252

TEXT: The present investigations were carried out, and the results presented already at the Fifth All-Union Conference on Colloid Chemistry. Stability factors and phase states of polymer dispersions in plasticizers are discussed on the example of polyvinyl chloride dispersion in dibutyl phthalate which is of interest as a two-component system. The preparation of pastes from these components indicates that a part of the polymer has a stabilizing effect. It was of interest to investigate the "lifetime" of such systems. The stability depends on the sedimentation, the particle size, and on the mutual dissolving (homogenization). The "lifetime" of dispersed systems depends on static and dynamic factors connected to the structure and properties of the polymer, the

On the polymer-plasticizer interaction ....

S/069/63/025/002/009/010
A057/A126

structure of globules obtained by emulsion polymerization, as well as to phase relations and the ability of the polymer to remain for a longer time in a non-equilibrated state. The process of paste gelatinization is a result of the dissolving stability (homogenization) of the dispersion. The surface layer of globules might be considered as a barrier which prevents the destruction of the globule. Only an increase of temperature will destroy this barrier effecting a subsequent quick dissolving. The process of paste gelatinization at elevated temperatures is discussed by the present authors as a complex of phenomena which effects a total homogenization of the system and the formation of a high-elastic gel by means of a mutual diffusion of polymer and plasticizer. There are 1 figure and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti (Scientific Research Institute of the Cable Industry); Moskovskiy oblast'noy pedagogicheskiy institut im. M.K. Krupskoy (Moscow Regional Pedagogic Institute imeni M.K. Krupskaya); Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machinery Construction)

SUBMITTED: December 30, 1961

Card 2/2

L 12981-63 EPR/EWP(j)/EPF(c)/EWT(l)/EWT(m)/BDS AFFTC/ASD/SSD Ps-4/
Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3000523 S/0020/63/150/002/0356/0358

AUTHOR: Shamrayevskaya, T. V.; Shchegolevskaya, N. A.; Sokolov, S. I.

TITLE: Changing the sign of double refraction in deformations in vitreous polymers

SOURCE: AN SSSR. Doklady, v. 150, no. 2, 1963, 356-358

TOPIC TAGS: birefringence, double refraction, methyl methacrylate, styrene, benzyl methacrylate

ABSTRACT: The study was made to explain the behavior of vitreous polymers with respect to the influence of external factors and structural change when birefringence (double refraction) sign crosses the zero value and changes. The effects of time, temperature, load size and structure on MMA (methyl methacrylate), ST (styrene) and BMA (benzyl methacrylate) as separate polymers and as a 1:1:1 copolymer were studied. The birefringence values were constant with time for the copolymer in the vitreous (15°) and highly elastic (80°) state. The effects of time on the optical coefficient were observed at transition temperature - from vitreous to elastic state (65°) or at a temperature where the coefficient changes sign (39°). Loading at 38° caused the coefficient to change

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L 12981-63

ACCESSION NR: AP3000523

signs. The aforementioned external factors being constant, the magnitude of the optical coefficient is dependent on the polymer structure as shown in the phase diagram of the tripolymer system in Fig. 1. Orig. art. has: 4 figures.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Building)

SUBMITTED: 24Jan63 DATE ACQ: 12Jun63 ENCL: 02

SUB CODE: CH NO REF SOV: 004 OTHER: 003

Card 2/42

L 12419-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS/ES(s)-2 AFFTC/ASD/SSD Ps-4/Pc-4/
Pt-4/Pr-4 RM/WW S/0020/63/150/004/0859/0861 83
ACCESSION NR: AP3001413 81

AUTHOR: Shamrayevskaya, T. V.; Shchegolevskaya, N. A.; Sokolov, S. I.

TITLE: Relationship between certain physical properties and the composition of polymerization products in a ternary system of vinyl monomers

SOURCE: AN SSSR. Doklady, v. 150, no. 4, 1963, 859-861

TOPIC TAGS: polymers, copolymers, methyl-metacrylate, styrene, benzyl metacrylate, photoelasticity, polymerization, thermomechanical properties, mechanical properties, optical properties, coefficients of elasticity

ABSTRACT: Simple polymers and copolymers of methylmetacrylate, styrene, and benzyl metacrylate were studied in connection with the preparation of polymers having properties useful for photoelasticity determinations. The compounds were synthesized by inductive polymerization in the presence of benzoyl peroxide. Preliminary to polymerization, a tetrapolymer was obtained at 60-80C. Subsequently, polymerization was carried out by increasing the temperature stepwise to 35, 45, 55, 80 and 100 degrees until the product lost its stable properties. Solid samples 5 x 10 x 80 mm sup 3 were studied. Thermomechanical, mechanical and optical properties, as well as the composition of the various polymers,

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L 12419-63

ACCESSION NR: AP3001413

2

are presented in a table. Thermomechanical curves were obtained on a Polani-type dynamometer. Vitrification temperature was obtained by extrapolation to zero stress. Linear coefficients of elasticity were determined by means of a strain gauge. Optical coefficients under stress were determined on a coordinate-synchronized polarimeter KSP-5. This study indicates that it is possible to design series of materials with a desired combination of mechanical and optical properties by varying the composition of copolymers in accordance with the data on the effect of single components in a multicomponent mixture of monomers. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Building)

SUBMITTED: 24Jan63 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 001 OTHER: 000

Card 2/2

L 37724-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM

ACCESSION NR: AP4023501 S/0069/64/026/002/0258/0262

AUTHOR: Fedoseyeva, Ye. G.; Fel'dman, R. I.; Sokolov, S. I.

TITLE: On the interaction of polymers with plasticizers. 4. Effect on rubber of plasticizers which migrate during contact with plasticized polyvinylchloride

SOURCE: Kolloidnyy zhurnal, v. 26, no. 2, 1964, 258-262

TOPIC TAGS: rubber research, plasticizer, polymer swelling, electric property

ABSTRACT: Mechanical and electrical properties and swelling were studied in various rubber + plasticizer systems. The purpose of the study was to determine the ability of plasticizers to penetrate into rubber at 25 and 145°C from polyvinylchloride layers in contact with rubber, as well as to evaluate the effect of plasticizers on the properties of rubber. Butadiene base TS-35 SK-50 rubber was tested. The following plasticizers were used: dimethyl phthalate, dioctyl phthalate, tricresyl phosphate, pentachlorodiphenyl, sebacic acid polyester, 2,2',2"-nitrile triethanol butyrate and shale oil. When the rubber specimens were swelled in plasticizers at 145°C for 1.5 hours and then kept at 25°C for 24 hours, the plasticizers "bled out." This indicates that the plasticizers migrate from the polyvinylchloride into the rubber mainly during vulcanization. Penta-

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L 37724-65

ACCESSION NR: AP4023501

chlorodiphenyl and shale oil were found to be the best plasticizers since they form a stable single-phase system with rubber which shows no tendency to syneresis. These plasticizers also show the least susceptibility to "bleeding." Rubber swelling was found to be more dependent on the limits of compatibility than on the coefficient of diffusion of the plasticizers. Changes in mechanical properties conform generally to the laws of molar and volume fractions rather than being determined by the weight content of the plasticizer. However the tensile properties of the rubber samples showed deviations from the general laws after aging for several days at 100°C. Electrical measurements showed that the effect of the plasticizers on the resistivity and specific inductive capacitance of rubber depends on the degree of polarity of the plasticizing compounds. Orig. art. has: 3 tables and 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut kabel'knoy promyshlennosti (Scientific Research Institute of the Cable Industry); Moskovskiy oblastnoy pedagogicheskiy institut im. N. K. Krupskoy (Moscow Regional Pedagogical Institute); Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Chemical Machine Building Institute)

Card 2/3

ACCESSION NR: AP4037179 S/0069/64/026/003/0362/0366

AUTHOR: Fedoseyeva, Ye. G.; Fel'dman, R. I.; Sokolov, S. I.

TITLE: Interaction of polymer with plasticizer
5. The adhesive properties of polyvinylchloride plasticates and their effect on rubbers in contact with them

SOURCE: Kolloidny*y zhurnal, v. 26, no. 3, 1964, 362-366

TOPIC TAGS: polymer plasticizer interaction, polyvinylchloride plasticate, rubber, resin, rubber vulcanization, rubber thermal aging, PVC film adhesion, polychloroprene, perchlorovinyl resin, nitrile rubber, rubber modifyer

ABSTRACT: In this series of studies the plasticizer was introduced into the rubber at swelling time or into the resin mix before vulcanization. Such systems may serve as models, since under these conditions the resin comes into contact not with the pure plasticizer but with plasticized polyvinylchloride (PVC) paste, films, etc. from which the plasticizer migrates into the resin. The composition of the PVC test pastes is tabulated. In the present work the influence of PVC pastes added with other compounds (dibutylphthalate, dioctylphthalate, etc.) and films

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ACCESSION NR: AP4037179

from these materials on properties of the rubbers TS-35 and SK-50 and the adhesive force between the boundary materials were studied. For the preparation of the specimens a 0.5 mm PVC paste layer was placed on top of the 2 mm thick resin mixture, the entire mass vulcanized in foil and subjected to thermal aging. The two layers were then separated and the rubber tested for mechanical properties and specific cubic resistance. The adhesion of paste to resin was determined with a dynamometer. The least amount of adhesion was found in pastes containing only PVC and plasticizer, best in those with PVC and perchlorovinyl resin or rubbers. Such contact did not change tensile strength appreciably, aging at 100C took place almost in the same way in the presence or in the absence of contact. The specific cubic electrical resistance somewhat diminished in the presence of polar plasticizers, whereas it increased during thermal aging of rubber in contact with polyvinyl-chloride plasticates containing polystyrene, polymethylmetacrylate and their monomers. The addition of modifiers to PVC pastes after vulcanization, had a favorable effect on the adhesion to rubber of films forming on gelation of the pastes. The best effect was produced by chlorinated polychloroprene, perchlorovinyl resin, polychloroprene and nitrile rubber. Orig. art. has: 1 figure and 4 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institute kabel'noy promy*shlennosti Moskva

Card 2/3

ACCESSION NR: AP4037179

(Scientific Research Institute for Cable Manufacture, Moscow); Moskovskiy oblastnoy pedagogicheskiy institut imeni N. K. Krupskoy (Moscow Region Pedagogic Institute); Moscovskiy institut khimicheskogo mashinostroeniya (Moscow Institute of Chemical Machinery Design)

SUBMITTED: 12Nov62 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: GC NO REF SOV: 003 OTHER: 000

3/3
Card

MOSKINA, L.D.; SOKOLOV, S.I.; SHCHEGOLIKHINA, N.A.

Polymeric materials for the polarization-optical method of determining stresses. Part 4: Use of volume contraction and refraction in studying the reaction kinetics of cross-linked systems. Izv. vys. ucheb. zav.; khim. i khim. tekh. 7 no.4: 646-650 '64. (MIRA 17:12)

1. Kafedra fizicheskoy khimii Moskovskogo instituta khimicheskogo mashinostroyeniya.

NORKINA, R.S.; SOKOLOV, S.I.; SHCHEGOLEVSKAYA, N.A.

Polymeric materials for the optical polarization method of determining stresses. Part 5: Terminal stages of copolymerization in a bulk of unsaturated polyesters and vinyl monomers. Izv. vys. ucheb. zav., khim. i khim. tekh. 7 no.5:839-841 '64 (MIRA 18:1)

1. Kafedra fizicheskoy khimii Moskovskogo instituta khimicheskogo mashinostroyeniya.

NORKINA, R.S.; SOKOLOV, S.I.; SHCHEGOLEVSKAYA, N.A.

Polymeric materials for the polarization-optical method of studying of stresses. Part 6: Study of physical and mechanical properties under the addition process of polymerization. Izv.vys. ucheb.zav.; khim.i khim.tekh. 7 no.6:997-1002 '64.

(MIRA 18:5)

1. Moskovskiy institut khimicheskogo mashinostroyeniya, kafedra fizicheskoy khimii.

L 41649-65 EPF(c)/EWP(j)/EWT(m)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5006380 S/0153/64/007/006/0997/1002 33 32 B

AUTHOR: Norkina, R. S.; Sokolov, S. I.; Shchegolevskaya, N. A.

TITLE: Polymers for stress analysis by the optical polarization method VI. Physical and mechanical properties under stepwise polymerization conditions

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 7, no. 6, 1964, 997-1002

TOPIC TAGS: polymerization, physical chemistry, stress analysis

ABSTRACT: The success of the optical method of stress analysis depends to a significant extent on the quality of the materials which are being used. Material shrinkage during the formation process is theoretically important in the production of high quality materials. In this article the effect of temperature-time parameters during polymerization on the physical and mechanical properties of products based on polyesters and vinyl monomers is studied and the conditions for the production of a chemically stable product are determined. Two types of changes in the properties of the system were investigated: irreversible changes associated with chemical processes and reversible changes of purely physical nature associated with the degree of deviation of the structure of the material from the equilibrium

Card 1/3

structure. Stepwise polymerization was carried out by maintaining the temperature of polymerization at some predetermined value for a definite period of time then increasing the temperature to another value for a predetermined time interval, etc. It was found that during structuring of the polymer system its physical and mechanical properties undergo significant changes in the vitreous state, reaching a stable state after high temperature treatment. Specific refraction was taken as a convenient parameter for monitoring the chemical process since it is independent of the physical state of the substance. When cooling conditions are varied there is a significant change in the specific volume and volume refraction, which is a function of the refractive index at constant specific refraction. The structuring processes are marked by an increase in the modulus of elasticity both chemically - (cross-linking) and physically (when the temperature is lowered) and are accompanied by an increase in the optical coefficient within the vitrefication region. Orig. art. has: 5 tables and 2 figures.

ASSOCIATION: Kafedra fizicheskoy khimii Moskovskogo instituta khimicheskogo machinostroyeniya (Physical Chemistry Department, Moscow Institute of Chemical Machine Building)

L 41649-65 i

ACCESSION NR: AP5006380 0

SUBMITTED: 20Mar64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 003 OTHER: 002

CC

Card 3/3

L 00987-66 EWT(m)/EPF(c)/EWP(j)/T/EWA(c) RPL RM/WW

ACCESSION NR: AP5020233 UR/0069/65/027/004/0619/0623
541.64

AUTHOR: Fel'dman, R. I.; Sokolov, S. I.

TITLE: Aggregation states of macromolecular compounds. 10. Polytetrafluoroethylene

SOURCE: Kolloidnyy zhurnal, v. 27, no. 4, 1965, 619-623

TOPIC TAGS: polytetrafluoroethylene, aggregate state, crystallinity, linear expansion coefficient, thermal dependence

ABSTRACT: In view of the known temperature transitions in the crystalline and aggregate states of polytetrafluoroethylene (PTFE), the temperature dependence of the coefficient of linear thermal expansion of this polymer was studied in detail. This study is important from both the theoretical point for supplying new data for colloidal chemistry and for the theory of aggregate states of polymers, and from the purely practical point of using this polymer for technical purposes. The coefficient of linear thermal expansion α was plotted against temperatures; readings were taken at each degree centigrade up to 300C. The rate of the temperature increase or decrease (in the reversed cycles) was 3—5 min per degree centigrade. Some experiments lasted 52 days. Measurements were made by a dynamometer serving as dilatometer. The

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L 00987-66

ACCESSION NR: AP5020233

method was previously described by the authors. It was found that the smoothness of the curve α vs t° was disrupted by several abrupt transitions: at 19—21, approximately 30 and 250—260C. The transition at 19—21C is considerable and should be taken into account as a cause of shrinkage in the industrial use of PTFE as a material for devices, gaskets, packings, and parts. Orig. art. has: 2 figures. [BN]

ASSOCIATION: Moskovskiy oblastnoy pedagogicheskiy institut im. N. K. Krupskoy (Moscow Oblast Pedagogical Institute); Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Building)

SUBMITTED: 19Feb64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 010 OTHER: 006 ATD PRESS: 4068

Card 2/2

DOLGIN, I.M.; SOKOLOV, S.L.

Reviews. Inform.biul.Per.antark.eksp. no.52:78-80 '65. (MIRA 18:10)

FEL'DMAN, R.I., SOKOLOV, S.I.

States of aggregation of high-molecular weight compounds. Part 10: Polytetrafluoroethylene. Koll. zhur. 27 no.4: 619-623 Jl-Ag '65. (MIRA 18:12)

1. Moskovskiy oblastnoy pedagogicheskiy institut imeni N.K. Krupskoy i Moskovskiy institut khimicheskogo mashinostroyeniya. Submitted February 19, 1964.

VEDERNIKOVA, N.F.; SOKOLOV, S.I.; FEL'DMAN, R.I.; SHCHEGOLEVSKAYA, N.A.

Interaction of polymers with plasticizers. Part 7: Thermo-optical characteristics of the action of plasticizers on polymethyl metharcylate. Koll. zhur. 27 no.6:806-809 N-D '65. (MIRA 18:12)

1. Moskovskiy institut khimicheskogo mashinostroyeniya i Moskovskiy oblastnoy pedagogicheskiy institut imeni N.K. Krupskiy. Submitted June 26, 1964.

VEDERNIKOVA, N.F.; SOKOLOV, S.I.; FEL'DMAN, R.I.; SHCHEGOLEVSKAYA, N.A.

Interaction of polymers with plasticizers. Part 6: Effect of plasticizers on the deformation birefringence of polymethyl methacrylate. Koll.zhur. 27 no.3:326-330 My-Je '65.
(MIRA 18:12)

1. Moskovskiy institut khimicheskogo mashinostroyeniya i Moskovskiy oblastnoy pedagogicheskiy institut imeni Krupskoy.
Submitted Dec. 28, 1963.

L 34417-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6010545 (N) SOURCE CODE: UR/0069/65/027/006/0806/0809

AUTHOR: Vedernikova, N. F.; Sokolov, S. I.; Fel'dman, R. I.; Shchegolevskaya, N. A.

ORG: Moscow Institute of Chemical Machinery (Moskovskiy institut khimicheskogo mashinostroyeniya); Moscow Oblast Polytechnic Institute im. N. K. Krupskaya (Moskovskiy oblastnoy pedagogicheskiy institut)

TITLE: Interaction of polymers with plasticizers. Part 7. Thermooptical characteristics of the effect of plasticizers on polymethyl methacrylate

SOURCE: Kolloidnyy zhurnal, v. 27, no. 6, 1965, 806-909

TOPIC TAGS: plasticizer, polymethylmethacrylate, double refraction, phosphate ester

ABSTRACT: In order to clarify the specificity of the optical effect of plasticization, the simultaneous influence of plasticizers and temperature on the birefringence of binary systems composed of a polymer and a low-molecular plasticizer was investigated. Thermooptical measurements were made in the two systems polymethyl methacrylate (PMMA)-dibutyl phosphate (DBP) and PMMA-tricresyl phosphate (TCP). The curve representing the temperature dependence of the optical birefringence coefficient C_ϕ of polymethyl methacrylate (see Fig. 1 and 2) is shifted by the presence of the plasticizer in the direction of the temperature axis toward lower values, in conformity with the mole fraction rule, and in the direction of the C_ϕ axis toward more

UDC: 541.64:535.551

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L 34417-66
ACC NR: AP6010545

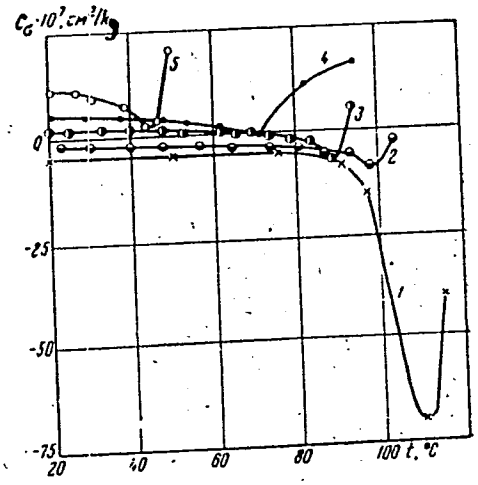

Fig. 1. Temperature dependence of C_σ of PMMA plasticized with TCP: 1 - PMMA; 2-5 - PMMA + TCP, N_2 equal to 0.014, 0.030, 0.062 and 0.113 respectively.

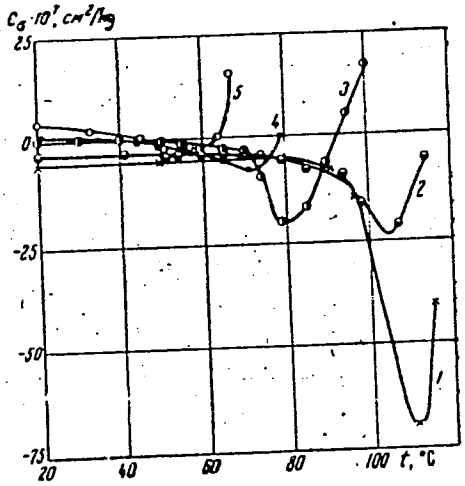

Fig. 2. Temperature dependence of C_σ of PMMA plasticized with DBP: 1 - PMMA; 2-5 - PMMA + DBP, N_2 equal to 0.011, 0.038, 0.056 and 0.097 respectively.

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positive values. The shift along the C_g axis depends on the composition and structure of the plasticizer molecules. It is concluded that the influence of the plasticizers introduced into PMMA is dual in nature: in some respects, it is related to a change in the state of aggregation of the polymer upon addition of the plasticizer, and is governed by known general rules established by studying the mechanical properties; in other respects, the plasticizer affects the optical properties according to its individual characteristics, which depend on the composition and structure of its molecules. Orig. art. has: 3 figures.

SUB CODE: 07/ SUBM DATE: 26Jun64/ ORIG REF: 004/ OTH REF: 001

Card 3/3 BLG

L 36183-66 EWT(m)/EWP(j)/T IJP(c) RM/WW

ACC NR: AP6014265 (A) SOURCE CODE: UR/0153/66/009/001/0117/0120

AUTHOR: Shamrayevskaya, T. V.; Sokolov, S. I.

ORG: Physical Chemistry Department, Moscow Institute of Chemical Machinery

TITLE: On polymer materials of the optical polarization method of stress determination. Part 2: Thermomechanical and mechanical properties of polymerization products in a ternary system of vinyl monomers

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 1, 1966, 117-120

TOPIC TAGS: thermomechanical property, solid mechanical property, vinyl plastic, styrene, methylmethacrylate, methacrylate

ABSTRACT: The thermomechanical and mechanical properties of polymerization products in the ternary system of vinyl monomers methyl methacrylate, styrene, and benzyl methacrylate were studied. The results were systematized by means of methods of physicochemical analysis involving the plotting of "composition vs. property" diagrams, which also made it possible to predict the properties of polymers of other compositions. The diagrams showed that in the system studied, the monomers producing rigid polymers (having high glass points and elastic moduli (E) change their properties under the influence of a second component (internal plasticization effect). The properties of the copolymers are classified, and it is shown that seven basic types

UDC: 678.71

Card 1/2

ACC NR: AP6037030 SOURCE CODE: UR/0069/66/028/006/0888/0893

AUTHOR: Fel'dman, R. I.; Fedoseyeva, Ye. G.; Sokolov, S. I.

ORG: Moscow Oblast Pedagogical Institute im. N. K. Krupskaya (Moskovskiy oblastnoy pedagogicheskiy institut); Scientific Research Institute of the Cable Industry (Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti); Moscow Institute of Chemical Machinery (Moskovskiy institut khimicheskogo mashinostroyeniya)

TITLE: Properties of filled polymers. Part 2. Combined effect of fillers and softeners on properties of polyisobutylene

SOURCE: Kolloidnyy zhurnal, v. 28, no. 6, 1966, 888-893

TOPIC TAGS: polymer, ~~filled polymer~~, polymer physical chemistry, filler, polyisobutylene, molecular weight, tensile strength, hardness, plasticity, ELASTICITY

ABSTRACT: The results are presented of investigation on the combined effect of fillers and softeners on the properties of polyisobutylene with average molecular weights of 200 000, 150 000, and 100 000 estimated according to tensile strength residual and elongation at rupture hardness, elasticity at 70 and 130C, and

Card 1/2 UDC: 541.182:539.412

ACC NR: AP6037030

compressive strain. The dependence of tensile strength and (rupture and residual) elongation on the quality of the softener for a system composed of polyisobutylene, lamp black and mineral wax, passes through the maximum, while the values of hardness and plasticity both at 70 and 130C increased. The results obtained may be explained by the complex effect of softeners on the properties of a filled polymer. For systems composed of polymer, softeners, and fillers, complete additivity of the properties was observed on the plots of filler composition property diagram with respect to tensile strength, plasticity, and rupture and residual elongation, when the filler quantity in the compounds does not exceed the optimum value. [NT]
Orig. art. has: 4 figures. [Based on authors' abstract]

SUB CODE: 11/SUBM DATE: 26Aug65/ORIG REF: 008/

Card 2/2

ACC NR: AT7002097 SOURCE CODE: UR/0000/66/000/000/0110/0120

AUTHOR: Sokolov, S. I.; Shchegolevskaya, N. A.

ORG: none

TITLE: Investigation in polymer materials field for contemporary trends in the optical method

SOURCE: Vsesoyuznaya konferentsiya po polyarizatsionno-opticheskomu metodu issledovaniya napryazheniy. 5th Leningrad, 1964. Polyarizatsionno-opticheskiy metod issledovaniya napryazheniy (Polarizing-optical method of investigating stresses); trudy konferentsii. Leningrad, Izd-vo Leningr. univ., 1966, 110-120

TOPIC TAGS: photoelasticity, refractory coating, composite material, polymer physical chemistry

ABSTRACT: Different new optically active polymer materials whose properties were synthesized from vinyl monomers such as methyl methacrylate, styrene, and benzene methacrylate are described. The strain-optical coefficient, its variation with temperature and time, and dependence of its magnitude and sign on the relative quantity of these monomers are given. The authors also treat materials based on polyester and vinyl monomers whose strain-optical coefficients have zero value for a wide range of proportions of additives such as methyl methacrylate and styrene.

Card 1/2

SOKOLOV, S. I.

Unsolved problem concerning the mechanical analysis of soils. Izv. AN Kazakh. SSR. Ser. biol. nauk no.2:51-55 '63. (MIRA 17:10)

SOKOLOV, S.I.

Methodological comments on aerological materials collected during the International Geophysical Year and the year of the International Geophysical Cooperation. Trudy AANII 266: 163-164 '64 (MIRA 18:1)

SOKOLOV, S.I.

Automatic device for cooking massecuites. Sakh.prom. 34 no.10:31-35 O '60. (MIRA 13:10)

1. Nauchno-issledovatel'skiy institut prodovol'stvennogo mashinostroyeniya.

(Moscow--Sugar machinery) (Automatic control)

SOKOLOV, S.I., inzh.

Device for automatic control of the boiling of refined sugar massecuites. Mekh.i avtom.proizv. 16 no.4:33-34 Ap '62. (MIRA 15:4)

(Sugar manufacture) (Automatic control)

SOKOLOV S. I.

PASYNSKIY, Anatoliy Germanovich; REBINDER, P.A., akademik, retsenzent; SOKOLOV, S.I., prof., retsenzent; KARGIN, V.A., akademik, red.; LUK'YANOV, A.B., red.; LIPKINA, T.G., red.izd-va; GOROKHOVA, S.S., tekhn.red.

[Colloid chemistry] Kolloidnaia khimiia. Pod red. V.A.Kargina. Moskva, Gos.izd-vo "Vysshaia shkola," 1959. 264 p. (MIRA 13:2)

(Colloids)

ZAYDES, Asya Lazarevna, doktor khim.nauk; SOKOLOV, S.I., prof., retsenzent; MINAYEVA, T.M., red.; KNAKNIN, M.T., tekhn.red.

[Structure of collagen and changes associated with processing] Struktura kollagena i ee izmeneniia pri obrabotkakh. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1960. 261 p.
(MIRA 14:4)

(Collagen)

SOKOLOV, S.I.

Microscopy of preserved feces. Lab. delo 7 no.1:31-32 Ja '61.
(MIRA 14:1)

1. Ozerskaya sanitarno-epidemiologicheskaya stantsiya, Moskovskaya oblast'.

(FECES—ANALYSIS)

SOKOLOV, S.I.; USPENSKAYA, Ye.V.

Preserving working dilutions of agglutination sera with carbolic acid. Lab.delo 3 no.5:27-28 S-O '57. (MIRA 11:2)

1. Iz laboratorii Sochinskoy gorodskoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach A.G.Mikheyeva)
(SERUM) (CARBOLIC ACID)

Abs Jour : Ref Zhur - Biol., No 6, 1958, No 25004

Author : Sokolov, S. I., Uspenskaya, E. V.

Inst : Not given

Title : Preservation of Operating Dilutions of Agglutinating Sera by Phenol.

Orig Pub : Labor. delo, 1957, No 5, 27-28

Abstract : No abstract.

Card 1/1

SOKOLOV, S.I. (deceased)

ALEKSEYEV, K.G.; SOKOLOV, S.I., retsenzent; SOKOLOVA, V.Ya., redaktor; MEDVEDEV-VEDMEDENKO, L.Ya., tekhnicheskiy redaktor

[Design and maintenance of warp winding machines in the cotton industry] Ustroistvo i obsluzhivanie osnovomotal'nykh mashin khlopchatobumazhnogo proizvodstva. Izd. 2-e ispr. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva promyshlennykh tovarov shirokogo potrebleniia SSSR, 1954. 107 p. (MLRA 8:4)
(Cotton machinery)

SOKOLOV, S.I.

ARTUSHENKO, Z.T.; SOKOLOV, S.I.

On the growth of the leaf blade of some tree species. Bot. Zhur. 37, No.5, 610-628 '52. (MLRA 5:10)
(Biol.A 28 no.3:6866 '54)

Sokolov, S. K.

USSR/Medicine - Immunity
Medicine - Tetanus, immunity

May 1947

"The Changes of the Reactivity of the Central Nervous System in Active and Passive Immunization Against Tetanus," K. I. Matveyev, S. K. Sokolov, 4 pp

"Byul Eksp Biol i Med" Vol XXIII, No 6

Detailed discussion of results of experiments with rabbits, explaining the therapeutic effect of injecting large doses of serum into the blood or a muscle.

PA 14T13

SOKOLOV, S. K.

"The Instruction Plan on the Production, Control, and Distribution of Antitetanus Serum" [Proceedings of Inst. Epidem and Microbiol im. Gamaleya 1954-56.

Personnel Identified as Participants in Sessions of the Scientific Council Held by the institutue During 1954. Inst. Epidem and Microbiol im. Gamaleya AMS USSR

SO: Sum 1186, 11 Jan 57.

VYGODCHIKOV, G.V.; SOKOLOV, [illegible]
SIMONYAN, K.S.; KASHINTSEVA, N.S.; GIL'GUT, [illegible]

Comparative studies on various methods for preventing tetanus in vaccinated subjects; passive and active methods of prophylaxis. Zhur.mikrobiol. epid. i immun. 27 no.12:77-83 D '56. (MLRA 10:1)

1. Iz Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei AMN SSSR.
(TETANUS, prevention and control,
active & passive methods (Rus))

SOKOLOV, S. K.

USSR / Microbiology. Microbes Pathogenic for Man and Animals. Bacteria. Anaerobic Bacilli. F

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 24088

Author : Kolesnikova, M. Kh.; Sokolov, S. K.
Inst : Not given
Title : Utilization of the Flocculation Reaction for Study of Certain Properties of Tetanus Antigens and Titration of Anti-Tetanic Sera. Report II. Utilization of the Flocculation Reaction for Titration of Anti-Tetanic Sera

Orig Pub : Zh. mikrobiol., epidemiol. i immunobiol., 1958, No 5, 44-49

Abstract : Report I, see RZhBiol., 1958, 90952

Card 1/1

SOKOLOV, S.K.

KOLESNIKOVA, M.Kh., i SOKOLOV, S.K.

Modified flocculation reaction in the investigation of certain properties of tetanus antigens and in the titration of antitetanus sera. Report No.1: Use of the flocculation reaction in the investigation of tetanus antigens. Zhur.mikrobiol.epid. i immun. 29 no.3:92-96 Mr '58. (MIRA 11:4)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.
(TETANUS, immunology,
antigen, flocculation reaction (Rus)

KOLESNIKOVA, M.Kh., SOKOLOV, S.K.

Use of the flocculation reaction in studying certain properties of tetanus antigens and in the titration of antitetanus sera. Report No.2: Use of the flocculation reaction in the titration of antitetanus sera. Zhur.mikrobiol.epid. i immun. 29 no.5:44-49 My '58 (MIRA 11:6)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

(TETANUS, immunology
immune sera, flocculation reaction in titration (Rus))

CHERTKOVA, F.A.; SOKOLOV, S.K.

Response to D.F. Pletsityi. Zhur. mikrobiol., epid. i immun. 33 no.11:97-100 N '62. (MIRA 17:1)

EFROS, M.M.; BRUK, Yu.G.; YUNISOVA, S.A.; SOKOLOV, S.L.

Investigating an industrial-test furnace for nonoxidative heating in the Leningrad Metallurgical Plant named for the 22d Congress of the C.P.S.U. Trudy VNIIT no.13:109-120 '64. (MIRA 18:2)

SOKOLOV, S.M.

Intensifying the cloth washing process. Teskt.prom. 14 no.9: 38-39 S '54. (MLRA 7:11)

1. Glavnyy mekhanik otbel'no-krasil'noy fabriki Glukhovskogo khlopchatobumazhnogo kombinata.
(Textile finishing)

SOV/137-59-3-7084

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 307 (USSR)

AUTHOR: Sokolov, S. M.

TITLE: Industrial Method for Plating Quality Control (Promyshlennyy metod kontrolya kachestva pokrytiy)

PERIODICAL: Sb. Kom-t po korrozii i zashchite metallov Vses. sov. nauchno-tekhn. o-v, 1958, Nr 3, pp 34-38

ABSTRACT: The author describes a rapid method for corrosion testing of the electroplating on electronic and radio equipment under the following conditions: In a salty fog (3% NaCl) in a TVK-type heat-and-moisture chamber in cycles of: 88 (sic!) hours at 35°C and 100% relative humidity (RH), 8 hours at 25° and 100% RH, and 8 hours at 35° and 97-95% RH; a parallel exposure in a sea-fog chamber with sea fog created by atomizing the following solution (in g/liter): NaCl 27, $MgCl_2$ 6, KCl 1, and $CaCl_2$ 1, for 2 hours every 6 hours. Standards are adduced for corrosion resistance expressed in hours in relation to the thickness and state of the surface of steel plated with Zn, Cd, Cu-Ni, and Cu-Ni-Cr and of brass with Ni and Cr.

I. N.

Card 1/1

S/081/61/000/021/040/094
B101/B147

AUTHOR: Sokolov, S. M.

TITLE: Galvanic and chemical coatings for protecting parts of machines and apparatus against atmospheric corrosion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 257, abstract 21I140 (Sb. "Zashchita izdeliy ot vozdeystviya tropich. klimata", L., 1959, 27 - 42)

TEXT: A survey on the resistance of various metals and alloys to atmospheric corrosion is presented. Recommendations are made for their protection by galvanic and chemical coatings. [Abstracter's note: Complete translation.]

Card 1/1

KRAVCHENKO, V.I., kand.tekhn.nauk; SOKOLOV, S.M., gornyy inzh.

Preventing air bumps in the "Lenin" mine. Ugol' Ukr. 4 no.4:27-29 Ap '60. (MIRA 13:8)
(Mining engineering)
(Subsidences(Earth movements))

SOKOLOV, S.M., AVRAMENKO, S.T.

Conveying machinery for coal haulage in the "V.I. Lenin" mine. Ugol' 35 no.5:12-13 My '60. (MIRA 13:7)

1. Glavnyy inzhener shakhty im. V.I. Lenina tresta Nesvetayantratsit (for Sokolov). 2. Inzhener po organizatsii rabot na shakhte im. V.I. Lenina tresta Nesvetayantratsit (for Avramenko).
(Donets Basin—Mine haulage)
(Conveying machinery)

SOKOLOV, S. M.

Cand Tech Sci - (diss) " Effective parameters of system of exploitation in the performance of mechanized complexes under conditions of the Moscow Area Basin." Tula, 1961. 16 pp; (Inst of Mining Affairs imeni A. A. Skochinskiy); 225 copies; price not given; (KL, 10-61 sup, 219)

SOKOLOV, S.M., inzh.

Efficient length of longwalls in new technological layouts for mining coal in Moscow Basin mines. Nauch. trudy Tul. gor. inst. no.4:61-82 '61. (MIRA 16:8)

(Moscow Basin--Coal mines and mining)

TIKHOMIROV, Ye.N., zasl.deyat.nauki i tekhniki RSFSR, professor, redaktor; POMOMAREV, S.D., doktor tekhnicheskikh nauk, professor, redaktor; SOKOLOV, S.N.; doktor, tekhnicheskikh nauk, professor, redaktor; TAHABASHEV, N.D., doktor tekhnicheskikh nauk, professor, redaktor; MAKUSHIN, V.M., kandidat tekhnicheskikh nauk, redaktor; POPOVA, S.M., tekhnicheskiy redaktor.

[Computing strength, hardness, stability and vibration; collected articles] Rashchety na prochnost' zhestkost', ustoichivost' i kolebaniia; sbornik statei. Moskva,Gos. nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, 1955. 290 p. (MLRA 8:9)

1. Moscow, Stankoinstrumental'nyy institut.
(Strength of materials)

SOKOLOV, S.N.

14(10) p 3 PHASE I BOOK EXPLOITATION SOV/1377

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; Glushkov, 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 Technical Sciences, Docent (Secretary); Tech. Ed.: Tikhanov, A.Ya.; Managing Ed. for Literature on General Technical and Transport Machine Building (Mashgiz): Ponomareva, K.A., Engineer.

Card 1/5

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 transcations 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.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

IS/mas
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SOKOLOV, S.N., doktor tekhn.nauk, prof.

Determining breaking pressures for pipes (theory of heavy deformations). Rasch.na prochn. no.2:189-212 '58.
(MIRA 12:2)

(Pipe) (Strength of materials)