LEVIN, A.M., kand.tekhn.nauk; SMIRNOV, V.A., kand.tekhn.nauk

Hydraulic design of integrated low-pressure grid systems.
Stroi. truboprovod. 6 no.8:15-18 Ag '61. (MIRA 14:8)

1. Institut Giproniigaz, Saratov.
(Gas distribution)

NECHAYEV, Mikhail Aleksandrovich. Prinimal uchastiye MITROFANOV, I.A., inzh.; ZUBAREV, S.A., retsenzent; LEVIN, A.M., retsenzent; SIGAL, I.Ya., retsenzeng; KOLYADA, I.A., retsenzent; STOLPNER, Ye.B., nauchnyy red.; FEDOTOVA, M.I., ved. red.; SAFRONOVA, I.M., tekhn. red.

[Safety measures in the transportation, distribution, and use of gas fuel] Tekhnika bezopasnosti pri transportirovke, raspredelenii i ispol'zovanii gazovogo topliva. Izd.3., perer. i dop. Leningrad, Gostoptekhizdat, 1962. 299 p. (MIRA 15:4)

(Gas as fuel—Safety measures)

LOGINOV, V.S., kand. tekhn. nauk, otv. red.; NIKITENKO, P.A., inzh., zam. otv. red.; LEVIN, A.M., kand. tekhn. nauk, red.; NIKITIN, N.I., inzh., red.; SMIRNOV, V.A., kand. tekhn. nauk, red.; YAKOVLEV, G.A., inzh., red.

[Construction and development of the production of household gas appliances] Konstruirovanie i razvitie proizvodstva bytovoi gazovoi apparatury. Saratov, Saratovskii in-t "GIPRONIIGAZ," 1960. 177 p. (MIRA 15:7)

1. Nauchno-tekhnicheskoye soveshchaniye po voprosu "Puti konstruirovaniya i razvitiya proizvodstva bytovoy gazovoy apparatury," Saratov, 1958. 2. Saratovskiy gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut po ispol'zovaniyu gaza v narodnom khozyaystve (for Nikitin).
(Gas appliances)

LEVIN, A.M.; SMIRNOV, V.A.; CHERKASOVA, A.Ya.; KUVSHINOVA, V.I.

Using electronic computers for calculating multicircular urban gas systems. Gaz. prom. 6 no.11:33-34 '61. (MIRA 15:1)
(Gas distribution) (Electronic calculating machines)

LEVIN, A.M.; OKSYUTA, G.M.; KHAYKINA, M.A.

Experience in the use of gas burner infrared dryers for drying paint coatings. Lakokras.mat.i ikh prim. no.6:71-72 '62.
(MIRA 16:1)

(Infrared drying apparatus) (Protective coatings—Drying)

LEVIN, A.M.; OKSYUTA, G.M.

Radiation intensity of infrared radiation-type gas burners. Gaz.prom. no.5:27-31 '63. (MIRA 16:6)
(Gas burners) (Heat--Radiation and absorption)

LEVIN, A.M.; BRYUKHANOV, O.N.

Testing infrared gas burners. Gaz.prom. 6 no.7:18-19 '61.
(MIRA 17:2)

LEVIN, A.M.; BRYUKHANOV, O.N.

Flame stability in relation to backfire in gas burners. Gaz. prom. 7 no.9:21-24 '62. (MIRA 17:8)

IRVIN, A.I.; [illegible], S.

Temperature conditions and the stability of the combustion of infrared radiation gas burners with metal nets. Gaz. prom. 9 no.2:16-19 '64. (MIRA 17:12)

LEVIN, A.M., kand. tekhn. nauk; BRYUKHANOV, O.N., mladshiy nauchnyy sotrudnik; MOLCHANOVA, T.A., mladshiy nauchnyy sotrudnik; OKSYUTA, G.M., mladshiy nauchnyy sotrudnik; KHAYKINA, M.A., mladshiy nauchnyy sotrudnik

Temperature regimes and spectral characteristics of infrared gas burners. Ispol'. gaza v nar. khoz. no.2:53-70 '63. (MIRA 18:9)

1. Laboratoriya bytovykh gazovykh priborov Saratovskogo gosudarstvennogo nauchno-issledovatel'skogo i proyektnogo instituta po ispol'zovaniyu gaza v narodnom khozyaystve.

L 42829-66 EWT(1)/EWP(e)/EWT(m)/T WW/JW/WE/WH

ACC NR: AR6010522 SOURCE CODE: UR/0196/65/000/010/T005/T005

AUTHOR: Levin, A. M.; Bryukhanov, O. N.

TITLE: Problems of combustion stability

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 10T36

REF SOURCE: Sb. Ispol'z. gaza v nar. kh-ve. Vyp. 3. Saratov, 1965, 116-169

TOPIC TAGS: combustion chamber wall temperature, flame propagation, gas flow, fluid flow, flow velocity, combustion mixture

ABSTRACT: Experiments have been performed to determine the value of the critical velocity gradient of the flow of a gas-water mixture and to study the influence of the wall temperature of the flame channel on the conditions of the origin of a flame jump (FJ) into brass tubes 6, 8, and 12 mm in diam. Investigations were performed on the limits of FJ through apertures of ceramic plates with the aim of establishing the mechanisms of the origin of FJ in flame channels of small diameter. Determinations were made of the most efficient dimensions of apertures in IR radiation burners. A method is presented for determining the possibility of the appearance of FJ during the heating-up of the flame channel walls. The influence of the configuration of the flame channels on the FJ was investigated. [Translation of abstract] 56 illus-

Card 1/2 UDC: 662.6

L 42829-66

ACC NR: AR6010522

trations and bibliography of 27 titles. V. Speysher

SUB CODE: 21

Card 2/2

L 40003-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(i)

ACC NR: AR6014540 SOURCE CODE: UR/0196/65/000/011/T011/T011

AUTHOR: Levin, A. M.; Salikhodzhayev, S.

TITLE: Investigation of IR burners with metal radiators

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 11T70

REF SOURCE: Sb. Ispol'z. gaza v nar. kh-ve. Vyp. 3, Saratov, 1965, 208-222

TOPIC TAGS: IR research, ~~gas burner, automatic~~ industrial burner

ABSTRACT: Experimental models of IR burners with metal-screen radiators have been constructed and tested; they may be used as prototypes for industrial burners. The experimental burners proved to be stable to the wind pressure and have a higher specific thermal load and surface temperature than the burners with ceramic radiators. Fourteen figures. Bibliography of 3 titles. [In-t Giproniigaz, g. Saratov] V. Speysher [Translation of abstract]

SUB CODE: 13,20

Card 1/1 11b UDC: 662.951.2.001.5

LEVIN A. M.

PA 10T82

USSR/Medicine - Viruses Mar 1947
Medicine - Dermatology

"Virus Diseases in Dermatology (a Review)," A. M. Levin, 9 pp

"Vestnik Venerologii i Dermatologii" No 3

Detailed discussion to the general effect that many phenomena treated as typical, specific symptoms of virus provenience of certain skin diseases by certain authors are actually only indirect indications, and that more research is needed.

10T82

RAKHMANOV, V.A., professor; LEVIN, A.M., dotsent.

Training clinical specialists in the departments of dermatology and venereal diseases in medical institutes. Vest. ven. i derm. no.3:24-28 My-Je '53. (MLRA 6:7)

(Medicine--Study and teaching)

COUNTRY	:	USSR
CATEGORY	:	Pharmacology and Toxicology. Chemotherapeutical [illegible]. Antibiotics V
JOUR.	:	RZhBiol., No. 1 1959, No. 4641
AUTHOR	:	Levin, A. K.; Prorvich, L. V.; Vaysfeld, M. I.
INST.	:	1st Moscow Medical Institute
TITLE	:	On the Treatment of Syphilis with Bemonovocillin
ORIG. PUB.	:	Tr. 1-go Mosk. med. in-ta, 1958, 4, 143-147
ABSTRACT	:	No abstract

CARD: 1/1

LEVIN, A.M., dots., KSANTOPULO, P.I., assistent, PRORVICH, L.V., assistent

Diprazine in certain pruritic dermatoses. Vest.derm. i ven. 32 no.5:63-64 S-O '58 (MIRA 11:11)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof. V.A. Rakhmanov) I Moskovskogo ordena Lenina meditsinskogo instituta im. I.M. Sechenova.

(PRURITIS, ther.
10-(2-dimethylamine -2-methylethyl) phenothiazine (Rus))
(PHENOTHAZINE, related cpds.
10-(2-dimethylamine-2-methylethyl)phenothiazine in pruritis (Rus))

LEVIN, A.M., dotsent; KSANTOPULO, P.I., assistent; PRORVICH, L.V., assistent

Results of the use of vitamin B12 in certain skin diseases. Vest. derm. i ven. 33 no.2:54-57 Mr-Ap '59. (MIRA 12:7)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - chlen-korrespondent AMN SSSR prof. V. A. Rakhmanov) I Moskovskogo ordena Lenina meditsinskogo instituta.

(SKIN DISEASES, ther.
vitamin B12 (Rus))
(VITAMIN B12, ther. use,
skin dis. (Rus))

RAKHMANOV, V.A.; LEVIN, A.M.; ROMANENKO, G.P.; METEL'SKIY, V.I.; VERENCHIKOVA, Ya.V.

Immediate results of the treatment of syphilis with bicillin-3. Vest.derm.i ven. 34 no.9:37-40 '60. (MIRA 13:11)

1. Iz kafedry kozhnykh i venericheskikh bolezney I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova (zav. - chlen-korrespondent AMN SSSR prof. V.A. Rakhmanov).
(SYPHILIS) (PENICILLIN)

LEVIN, A. M.

Professor V. A. Rakhmanov, corresponding member of the Academy of Medical Sciences of U.S.S.R., on his 60th birthday. Vest. derm. i ven. no.6:93-94 '61. (MIRA 15:4)

(RAKHMANOV, VIKTOR ALEKSANDROVICH, 1901-)

LEVIN, A.M.

"Physician's calendar". Gig. i san. 28 no.1: 117-118 Ja'63.
(MIRA 16:7)

1. Glavnyy vrach Respublikanskoy sanitarno-epidemiologicheskoy stantsii Komi ASSR.
(MEDICINE—HANDBOOKS, MANUALS, ETC.)

LEVIN, A.M.

Outbreak of trichinelliasis in the Komi A.S.S.R. in 1964.
Med. paraz. i paraz. bol. 34 no. 5:611-612 S-O '65
(MIRA 19:1)

1. Respublikanskaya sanitarno-epidemiologicheskaya stantsiya, gorod Syktyvkar, Komi ASSR. Submitted May 29, 1965.

LEVIN, A.M.; BRYUKHANOV, O.N.

Investigating infrared-radiation gas burners operating on coke-oven gas. Gaz. prom. 8 no.12:20-22 '63 (MIRA 18:2)

LEVIN, A.M.; SALIKHODZHAYEV, S.

Study of the extent of the passage of a flame through a metal grating. Izv. AN UzSSR. Ser. tekh. nauk 8 no.6:60-65 '64. (MIRA 18:3)

1. Institut ispol'zovaniya topliva Gosneftekhimkomiteta pri Gosplane SSSR.

LEVIN, A.N. (Alma-Ata)

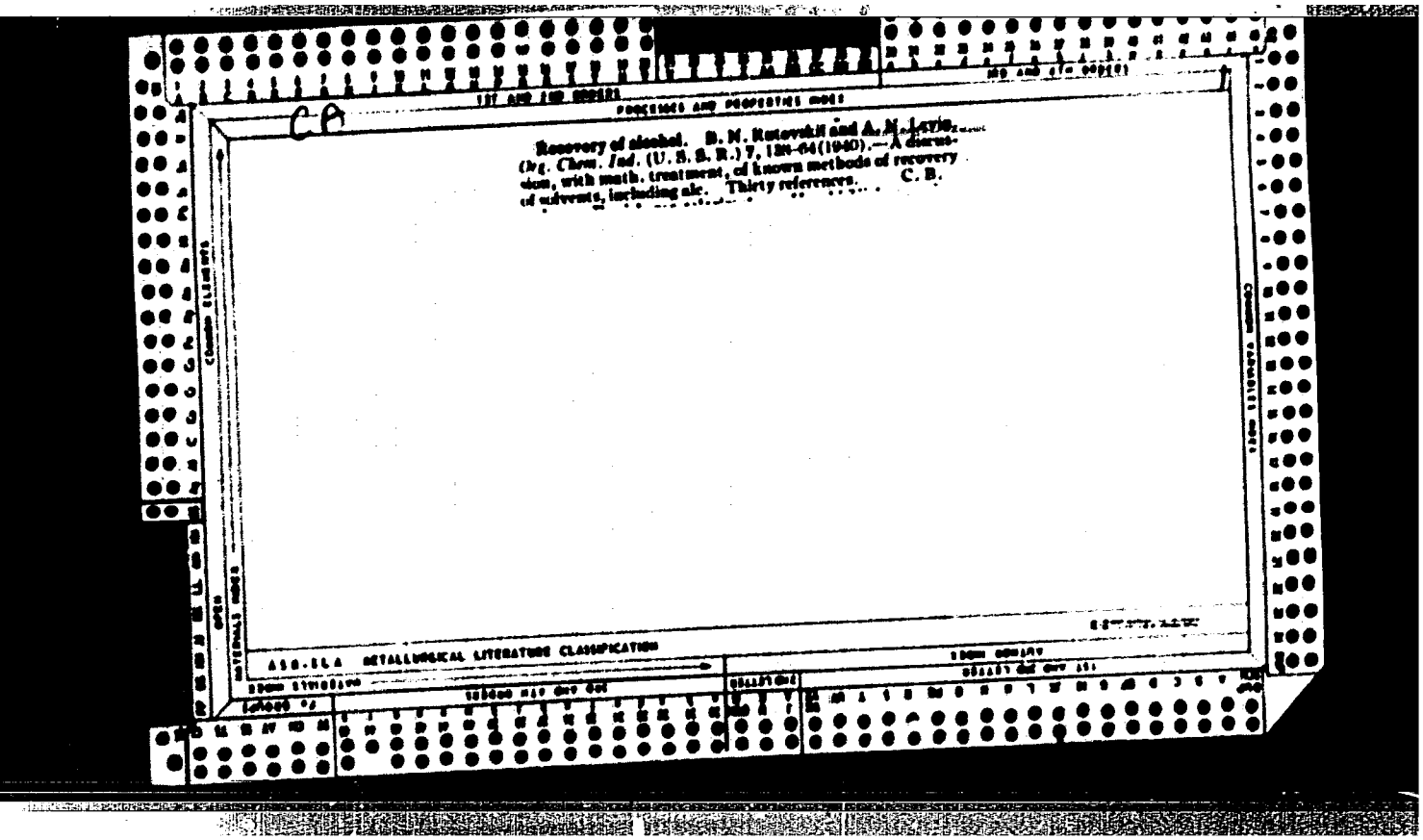
Practical problems. Mat. v shkole no.1:89-91 Ja-F '56.
(Mathematics--Problems, exercises, etc.) (MLRA 9:4)

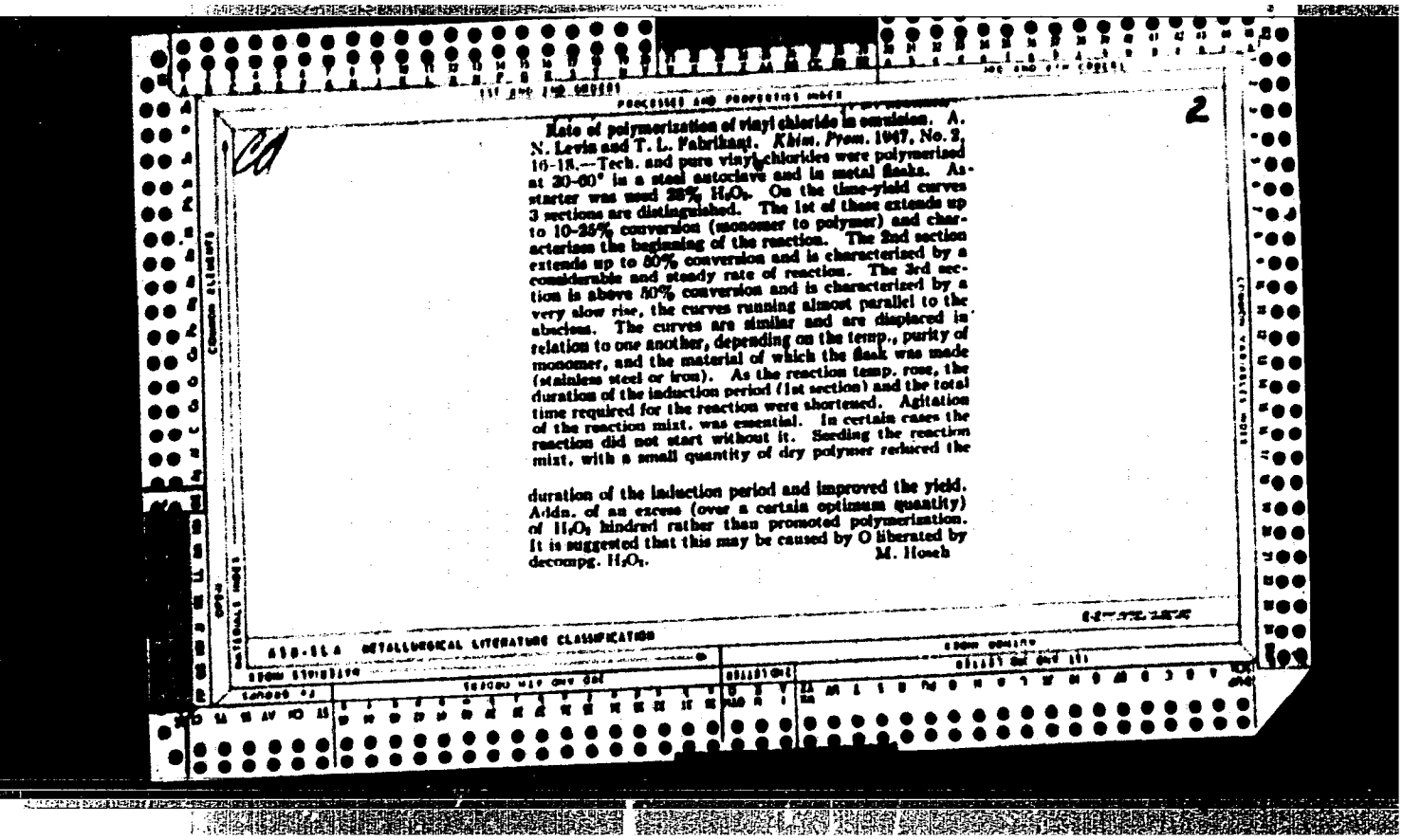
LEVIN, A.N.; SMIRNOVA, V.V. (Alma-Ata)

Necessity of solving standard problems. Mat. v shkole no.1:58 Ja-F '63. (MIRA 16:6)
(Mathematics--Problems, exercises, etc.)

LEVIN, A.N.

Calculating the absorption coefficients of monochromatic waves in a nonuniform medium with an arbitrary law of change in velocity with depth. Prikl. geofiz. no.40:31-34 '64
(MIRA 18:1)





Rate of polymerization of vinyl chloride in emulsion. A. N. Levin and T. L. Fabrikant. *Khim. Prom.* 1947, No. 2, 16-18.—Tech. and pure vinyl chlorides were polymerized at 20-60° in a steel autoclave and in metal flasks. As starter was used 25% H_2O_2. On the time-yield curves 3 sections are distinguished. The 1st of these extends up to 10-35% conversion (monomer to polymer) and characterizes the beginning of the reaction. The 2nd section extends up to 80% conversion and is characterized by a considerable and steady rate of reaction. The 3rd section is above 80% conversion and is characterized by a very slow rise, the curves running almost parallel to the abscissa. The curves are similar and are displaced in relation to one another, depending on the temp., purity of monomer, and the material of which the flask was made (stainless steel or iron). As the reaction temp. rose, the duration of the induction period (1st section) and the total time required for the reaction were shortened. Agitation of the reaction mixt. was essential. In certain cases the reaction did not start without it. Seeding the reaction mixt. with a small quantity of dry polymer reduced the duration of the induction period and improved the yield. Addn. of an excess (over a certain optimum quantity) of H_2O_2 hindred rather than promoted polymerization. It is suggested that this may be caused by O liberated by decompg. H_2O_2.

M. Hoseh

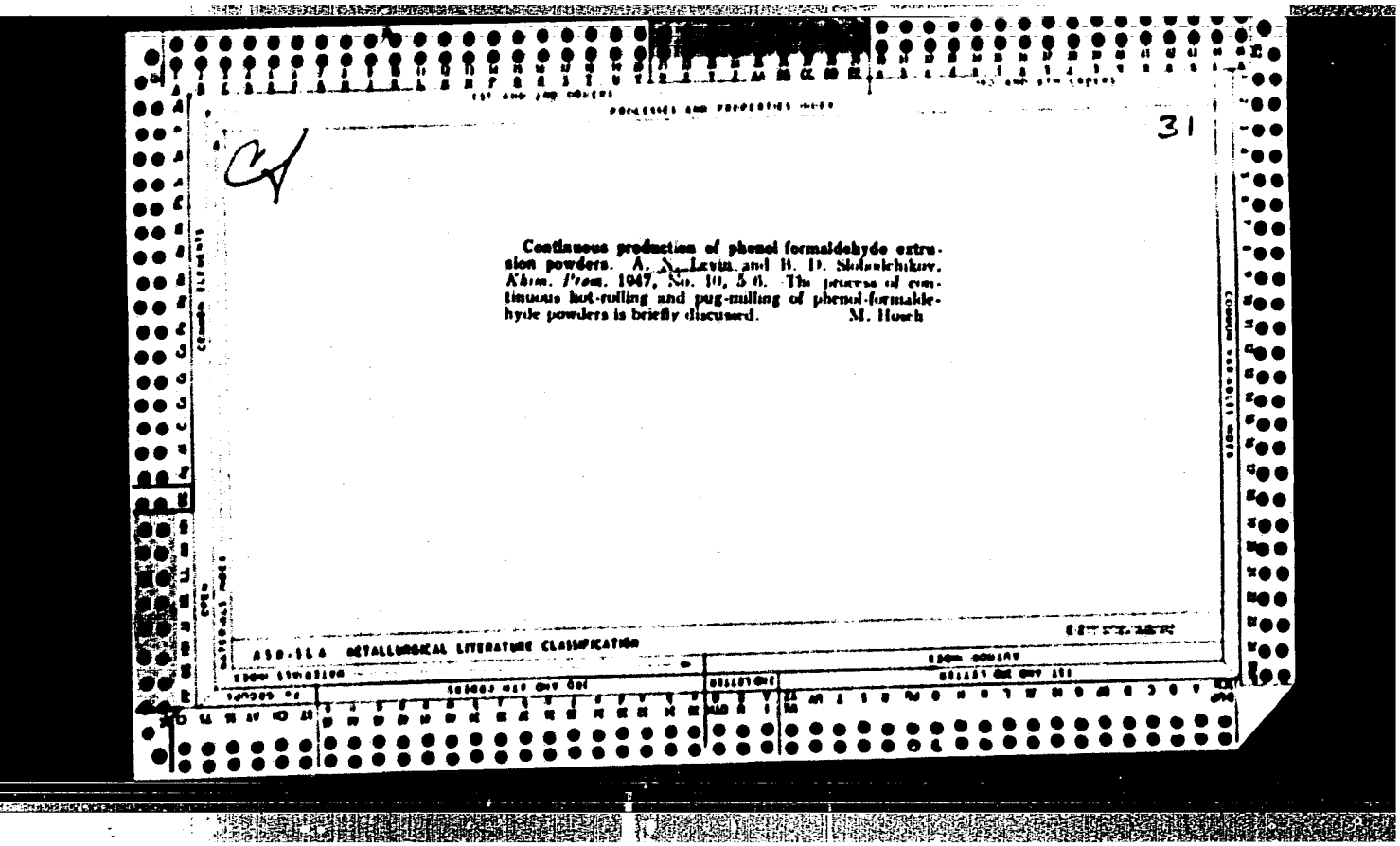
LEVIN, A.N., dotsent, kandidat tekhnicheskikh nauk; FABRIKANT, T.L., nauchnyy sotrudnik

Polymerization rate of vinyl chloride in emulsions. Khim.prom. no.2:48-50 F'47. (MLRA 8:12)

1. MIKhM*

(Ethylene) (Polymers and polymerization)

* [illegible] Building



31

Continuous production of phenol formaldehyde extrusion powders. A. A. Levin and B. D. Shidakhikov. *Khim. Prom.* 1947, No. 10, 5-6. The process of continuous hot-rolling and pug-milling of phenol-formaldehyde powders is briefly discussed. M. Hoerh

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

LEVIN, A.N., kandidat tekhnicheskikh nauk; SLOBODCHIKOV, B.D., inzhener

Continuous production of phenol-formaldehyde molding powders. Khim. prom.no 10:289-290 O'47. (MLRA 8:12)
(Plastics industry)

LEVIN, A. N.

USSR/Chemistry - Plastic Materials Nov 1947
Plastic Industries

"The Plastics Industry," Prof B. N. Rutovskiy, A. N. Levin, Chief Engr of GlavKhimPlast, 2½ pp

"Khimicheskaya Promyshlennost'" No 11

General account of the growth of the plastics industry, especially since 1931. A large part of the industry was moved eastward during the war. A very broad general reference is made to some of the chemical aspects of the industry.

COM 34T13

LEVIN, A. N. & BEZKHODARNIY, N. F.

Equipment of plastics factories. OBORUDVANIYE ZAVODOV PLASTICHESKIKH MASS. Moscow, Leningrad. State Sc. Tech. Publ. of Chemical Lit. 1950. pp. 267.

LEVIN, A. N.

(2) 3

Acceleration of the polymerization of vinyl chloride. A. N. Levin. *Trudy Moskov. Inst. Khim. Mashinostroeniya* 1950, No. 1 (Whole No. 9), 47–52.—CH_2:CHCl is polymerized more rapidly at 30, 40, 60, and 90° in sealed Fe vessels than in sealed glass ampuls in presence of H_2O_2; in stainless steel no polymerization takes place. J. P. D.

LEVIN, A.N.; KUTOVSKIY, B.N.

Continuous polymerization of vinyl derivatives. Vsesoyus. Khim. Obshchestvo im. D.I. Mendeleyeva, Vysokomolekul. Soedineniya No.11, 9-17 '51. (MLRA 4:12)
(CA 47 no.13:6694 '53)

LEVIN, A.N.

"Mechanism of Action of Colloidal and High-Molecular Organic Additions on Cathodic Processes. A. N. Levin and A. V. Pomosov (*Trudy Soveshchaniya po Elektrokhimii 1950*, 1953, 307–314).—[In Russian]. The effect of various addn. agents (glue, Igepon detergent, gelatin, p-toluidine sulphonic acid, 2 : 7-naphthalene sulphonic acid, sulphite liquor, soap-root, &c.) on cathodic polarization in baths contg. $CuSO_4.5H_2O$ 135, H_2SO_4 180 g./l., at various c.d. and temp. was investigated.—G. V. E. T.

1/2 0

LEVIN, A. N. and PIK. I. Sh.

PHASE X TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID662 - X

BOOK Call No.: AF653017

Authors: PIK, I. SH., LEVIN, A. N.
Full Title: FUNDAMENTALS OF THE MANUFACTURE OF ARTICLES FROM PLASTIC MATERIALS
Translitetated Title: Osnovy proizvodstva izdeliy iz plastmass

PUBLISHING DATA
Originating Agency: None
Publishing House: Vsesoyuznoye kooperativnoye izdatel'stvo (All-Union Cooperative Publishing House)
Date: 1954 No. pp.: 320 No. of copies: 6,000
Editorial Staff
Editor: Rutovskiy, B. N., Professor

PURPOSE AND EVALUATION: This book is intended for foremen and technicians working in industrial cooperatives. It can be used also by engineers and technologists in plastics industry plants, and by students who wish to enter this field. The book is interesting because it contains information on plastics materials used in the USSR and practical engineering data on Soviet manufacturing methods and equipment. However, as a basic work, it does not compare favorably with American or English publications (e.g., SPI Handbook, Modern Plastics, by H. Barron, Plastics Molding, by J. Delmonte, etc.) which are more extended and have a more scientific approach.

NOTE: SEE card for PIK, I. Sh. for translation.

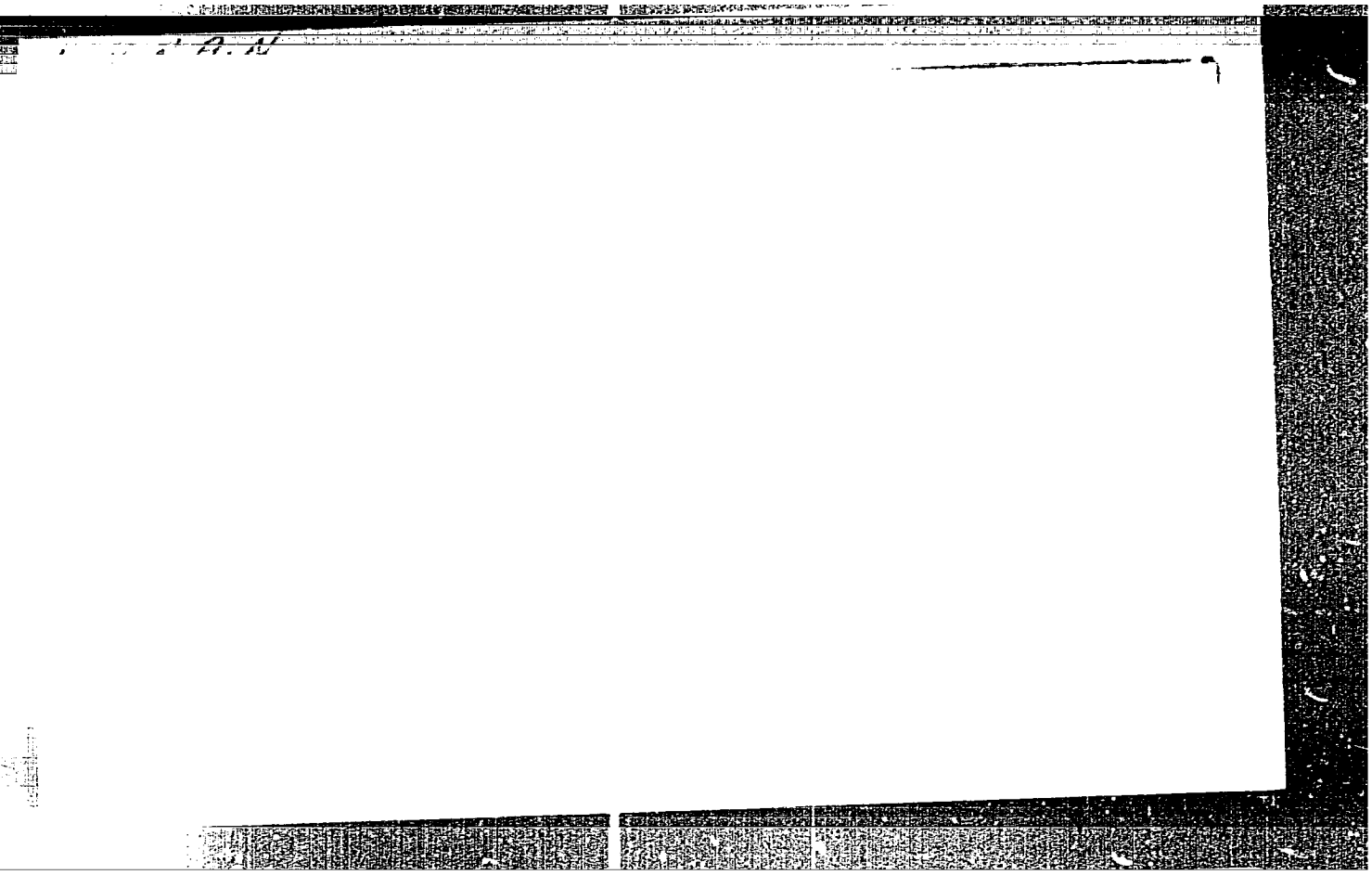
LEVIN, A. L.
Abram Naumovich

LEVIN, A. L.: "Investigation of certain continuous production processes of condensed and polymerized pitch." Min Higher Education USSR. Moscow Inst of Chemical Machinebuilding. Moscow, 1956. (Dissertation for the Degree of Doctor in Technical Sciences).

Source: Knizhnaya letopis' No 28. 1956 Moscow

LEVIN, A.N.; PERLIN, S.M.

Pressure casting of thermoplastics in the USA and Great Britain. (MIRA 9:10)
Khim.prom.no.4:246-253 Je '56.
(Plastics)



LEVIN, A. N.

Intensification of the styrene polymerization process for the production of polymers with predetermined properties. B. M. Arbituman and A. N. Levin (Chem. Machine Building Inst., Moscow). *Khim. Prom.* 1957, 193–201.—Conditions for the polymerization of styrene-water emulsions initiated by the oxidation-reduction system were developed, which resulted in the polymerization at a high velocity, and permitted the use of a continuous styrene polymerization process. Two groups of formulas were developed: (I) by using isopropylbenzene hydroperoxide with various reducing agents ($FeSO_4$, Na_2SO_3, $Na_2S_2O_5$); and (II) with Bi_2O_3 or $K_2S_2O_8$. The preferred formula contained styrene 104, H_2O 208, K castor oil soap 2.08 g., I 3.4, and Na_2SO_3 4.76 mmol. Curves were reproduced of the mol. wt. of the polymers obtained during different polymerization times, the kinetic curves at various temps., the polymerization rates at different temps., the polymerization rates at different I concns., and the rates of addn. of I to the system.

W. M. Sternberg

LEVIN, A.N.

LEVIN, A.N., doktor tekhn.nauk.

Continuous processes in the manufacture of plastics. Khim.nauka i prom. 2 no.5:630-638 '57. (MIRA 10:12)
(Plastics)

67094
SOV/123-59-13-54211

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Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 13, p 520 (USSR)

AUTHORS: Basov, N.I., Levin, A.N.

TITLE: Investigation of the Effects of Several Technological Factors on the Pressure in the Press-Mold of Casting Machines in the Pressure-Casting of Polystyrene

PERIODICAL: Tr. Mosk. in-ta khim. mashinostr., 1957, Vol 13, pp 97 - 109

ABSTRACT: The distribution of pressure in the test press-mold in dependence on the temperature of material, specific casting pressure, and mold design was investigated. As a test specimen a plate 155 mm long, 20 mm wide and 2.4 - 2.6 mm thick, was used. The pressure was measured in six places, located over the length of the specimen in a 25-mm distance. The pressure of the plastic on the walls of the mold was recorded on a film of a MPO-2 electromagnetic oscillograph through a 6-channel tensometer amplifier. The investigations were carried out on a mechanical casting machine of a capacity of 30 - 50 g per cycle, with a variation in pressure of from 400 to 1,300 kg/cm^2, at a temperature of 170 - 210°C in intervals of 10°C. The distance of the pressure measuring points from the inlet

...actured object.

M.L.P.

Card 1/2

Card 2/2

64-58-2-5/16

AUTHORS: Arbitman, S. E., Levin, A. N.

TITLE: Continuous Water-Emulsion Polymerization of Styrene (Nepreryvnaya vodnoemul'sionnaya polimerizatsiya stirola)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 2, pp. 27-32 (USSR)

ABSTRACT: A method is described which is initiated by an oxidation reduction system and which takes into account the previous works in the field of continuous processes. The plant consists of an "ideal arrangement" of the apparatus according to the grapho-analytical computation method for the ideal order of aggregates for reactions in homogenous liquid phase. A schematic representation of the laboratory plant is given and from it can be seen that the aqueous solution of the emulsifier together with the reducing agent, and styrene together with the oxidizing agent dissolved in it are directed into the emulsifier through siphons, in the emulsifier being a propeller doing 1000 revs/min. From the emulsifier the line leads through a coil in the water thermostat to the three polymerization vessels which are also placed in thermostats. Each polymerizer has a thermometer and a stirrer. From the given operation technique can be seen that

Card 1/3

Continuous Water-Emulsion Polymerization of Styrene

polymerization begins in the last polymerizer, that then the two before this are supplied after each other and that only then continuous polymerization begins by the full connection of the plant. From a table can be seen that the authors worked according to three methods. The operational parameters of the aggregates are computed grapho-analytically and the given diagrams (velocity curves) of the function of time- and monomer concentration vs. polymerization velocity are obtained by graphical differentiation. From the obtained velocity curves the steady concentrations of each individual polymerizer are computed according to a formula; the practically obtained mean values coincide sufficiently with those calculated. From this is concluded that the grapho-analytical method of computation can be used for this operation process. The determination of the monomer content in styrene was carried out by bromination of the double bond. It was found that the capacity of the plant a greed with the calculations, and that it was very high in the various methods. The schematic representation of a test plant is also given. Among other it can be seen from it that the latex of the last polymerizer is coagulated in a coagulator

with a water solution of the coagulum and is separated from the monomer, or according to another variant is directly brought into drying atomizer. The latex suspension congulated and treated with steam can be washed in two different ways. The washed polymer is dried in an air drying apparatus. There are 4 figures, 5 tables, and 5 references, 4 of which are Slavic

AVAILABLE: Library of Congress

1. Styrene--Polymerization 2. Industrial plants--Operation
3. Industrial equipment--Operation 4. Mathematics

AKBITMAN, S.M.; LEVIN, A.N.

Continuous aqueous emulsion polymerization of styrene. Khim. prom. no.2:91-96 Mr '58. (MIRA 11:5)
(Styrene) (Polymerization)

LEVIN, A.N., prof.

Scientific and technical conference on polystyrene. Khim.nauk i prom. 3 no.5:673-674 '58. (MIRA 11:11)
(Styrene)

5(5); 15(8) PHASE I BOOK EXPLOITATION SOV/2814

Levin, Abram Naumovich, Doctor of Technical Sciences, Professor

Plastmassy v mashinostroyenii (Plastics in Mechanical Engineering) Moscow, Izd-vo "Znaniye", 1959. 44 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya IV, 1959, no. 21) 48,500 copies printed.

Ed.: I.B. Faynboym; Tech. Ed.: L. Ye. Atroshchenko.

PURPOSE: This booklet is for the general reader interested in the applications of plastics.

COVERAGE: The author gives a popular review of various types of plastics and their use in machine building. The text includes a brief description of the manufacture of plastics and of their properties as construction material to be used in machine building. The role of plastics production in the Seven Year Plan is stressed through the booklet. No personalities are mentioned. There are 22 Soviet references.

Card 1/3

Plastics in Mechanical Engineering SOV/2814

TABLE OF CONTENTS:

Card 2/3

AVAILABLE: Library of Congress

Card 3/3

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LEVIN, A.N.

5(3); 25(2) PHASE I BOOK EXPLOITATION SOV/2884

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F.E. Dzerzhinskogo

Plastmassy v mashinostroyenii (Plastics in Machine Building) Moscow, Mashgiz, 1959. 236 p. Errata slip inserted. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (Title page): V.K. Zavgorodniy; Ed. (Inside book): B.M. Notkin, Engineer; Ed. of Publishing House: G.M. Konovalov; Tech. Ed.: A. F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Making (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This collection of articles is intended for engineers and technicians in the machine-building industry.

COVERAGE: This collection reviews the progress made by the Soviet Union in the field of manufacturing new plastic materials and fabricating different plastic -

Card 1/4

Plastics in Machine Building SOV/2884

material articles for use in the machine-building industry. Physicomechanical and dielectric properties of phenolite, decorrosite, fluoroplastics, epoxy resins, polyamides, laminated plastics, and fiberglass plastics are analyzed and their use in machine building described. Characteristics and composition of adhesives and bonding agents are given and the technology of the pressing process described. Methods of coating with plastics as a protection against corrosion are explained, and metallization of plastics achieved by vacuum evaporation is reviewed, as well as equipment used for manufacturing and fabricating plastics and articles made of plastics. Mechanization of certain operations and automatic control of various processes are discussed. No personalities are mentioned. References accompany individual articles.

TABLE OF CONTENTS:

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PHASE I BOOK EXPLOITATION SOV/3814

Petrov, Grigoriy Semenovich, and A.N. Levin

Termoreaktivnyye smoly i plasticheskiye massy (Thermosetting Resins and Plastics) Moscow, Goskhimizdat, 1959. 309 p. Errata slip inserted. 4,500 copies printed.

Ed. (Title page): M.I. Garbar; Ed.: B.M. Kovarskaya; Tech. Ed.: Ye.G. Shpak.

PURPOSE: This book is intended for workers in the plastics industry, and for those interested in the processing and application of synthetic resins. It may also prove useful to students pursuing related studies at schools of higher education and tekhnikums.

COVERAGE: In this book the authors have collected and compiled the results of recent studies in the field of thermosetting plastics. The production processes and equipment for thermosetting resins (phenolaldehyde, carbamide [urea-formaldehyde], polyester and epoxy resins), as well as for molding powders, adhesives, and

Card 1/9

laminated plastics based on these resins are described. The characteristics of the initial raw materials and the finished product are given. The production of wood plastics and organosilicon polymers is not included. The following are mentioned for their contributions in the field of thermosetting resins and plastics: G.S. Petrov, I.P. Losev, S.N. Ushakov, and V.V. Korshak. The book is based on data from Soviet factories and scientific research organizations, the lectures of G.S. Petrov at the Moskovskiy khimikotekhnologicheskiy institut imeni. Mendeleyeva (The Moscow Institute of Chemical Technolgy imeni Mendeleyev), and on the work of A.N. Levin at the Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Machine Manufacturing for the Chemical Industry). The authors thank B.M. Kovarskaya, B.L. Pruzhiner, the personnel of the Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (Scientific Research Institute of Polymer Plastics), and G.N. Zil'berman. There are 355 references: 233 Soviet, 97 English, 21 German, and 4 French.

TABLE OF CONTENTS:

AFANAS'YEV, A.N., kand.tekhn.nauk; BASOV, N.I., kand.tekhn.nauk; BELOVITSKIY, A.A., inzh.; VESELOVSKIY, V.S., doktor tekhn.nauk, prof.; GORELIK, B.I., kand.tekhn.nauk; DOROMEHKOV, I.M., inzh.; ZAK, D.L., inzh.; IVONIN, V.I., inzh. [deceased]; KLINOV, I.Ya., doktor tekhn. nauk, prof.; LEVIN, A.N., doktor tekhn.nauk, prof.; LEVIN, S.N., kand.tekhn.nauk; LEPETOV, V.A., kand.tekhn.nauk; LEONT'YEV, N.L., doktor tekhn.nauk, prof.; LOKHINA, P.I., kand.tekhn.nauk; MATVEYEVA, L.V., inzh.; MIKHAYLOV, A.N., doktor tekhn.nauk, prof.; MUDRIK, Kh.I., kand.tekhn.nauk; PEHLIN, S.M., inzh.; SALAZKIN, K.A., kand.tekhn.nauk; SIL'VESTROVICH, S.I., kand.tekhn.nauk; SOKOLOVSKAYA, S.I., kand. tekhn.nauk; KHEHKIN, A.A., inzh.; KHUKHRYANSKIY, P.N., doktor tekhn. nauk, prof.; SHEYDEMAN, I.Yu., kand.tekhn.nauk; YASHUNSKAYA, F.I., kand.tekhn.nauk; POGODIN-ALEKSEYEV, G.I., doktor tekhn.nauk, prof., red.; RYBAKOVA, V.I., inzh., red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Handbook on materials used in the manufacture of machinery] Spravochnik po mashinostroitel'nym materialam; v chetyrekh tomakh. Pod red.G.I.Pogodina-Alekseeva. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry. Vol.4. [Nonmetallic materials] Nemetallicheskie materialy. Red.toma A.N.Levin. 1960. 723 p.
(MIRA 13:7)

(Machinery industry) (Nonmetallic materials)

87486

S/191/60/000/001/001/015
B016/B054

15.8102

AUTHORS: Zlatina, S. A., Levin, A. N.

TITLE: New Copolymers of Vinyl Chloride

PERIODICAL: Plasticheskiye massy, 1960, No. 1, pp. 3-8

TEXT: The authors report on the development of methods of copolymerizing monomers of much differing specific activities. They used vinyl chloride copolymerized with a) styrene, b) vinylidene chloride, and c) acrylic acid nitrile. The purpose of the study was: 1) the production of "genuine" copolymers, not only polymer mixtures; 2) the copolymers produced should be soluble in ordinary cheap solvents. The copolymer yield by weight was determined after precipitating the resin by NaCl from the latex. In the experiments with vinyl chloride and styrene, it was found that styrene inhibits the copolymerization at a ratio to vinyl chloride of 0.0146 : 0.4. Separate polymerization takes place when the styrene amount is increased. From the experimental results (Table 1), the authors conclude that the polymer amount is independent of the used quantity of initiator (systems:

Card 1/3

New Copolymers of Vinyl Chloride

S/191/60/000/001/001/015
B016/B054

potassium persulfate - bisulfate, or cumene hydroperoxide - bisulfite). The former initiator system warranted a conversion of 90 - 95% without induction period, the latter an 82% conversion with short induction period. Figs. 1 and 2 show the dependence of conversion on the time of copolymerization. The experiments with vinyl chloride, vinylidene chloride, and styrene showed that the latter is the most active one. The authors recommend to supply the reaction vessel first with the two former monomers together. Styrene was added by a measuring hopper during the whole process, or by portions. Figs. 2 and 3 show results at different temperatures. From Table 3, the authors conclude: 1) that an increase in the vinylidene chloride amount reduces the viscosity of the copolymer; 2) that a decrease in the reaction temperature increases the viscosity, and prolongs the duration of the process; 3) that the optimum weight conditions for the formation of a low-viscous and (up to 15% concentration) well soluble copolymer are the following: vinyl chloride : vinylidene chloride : styrene = = 85 : 10 : 5 at a reaction temperature of 60°C. Experiments with acrylic acid nitrile (10%) instead of styrene resulted in a lower solubility of the copolymer. Added in one portion, the acrylic acid nitrile slows down,

SHANIN, N.P.; LEVIN, A.N.

Investigating the axial forces of a single-screw extruder in the processing of polyvinylchloride plasticates. Plast. massy no.2:36-43 '60. (MIRA 13:6)
(Plastics)
(Extrusion process--Equipment and supplies)

83412

S/191/60/000/006/004/015
B004/B054

5.3830A

AUTHORS: Koncharov, G. S., Levin, A. N., Mikhaylov, G. D., Repkin, Yu. A., Shushpanov, P. I.

TITLE: Influence of Ultrasonics on the Polymerization of Styrene in Aqueous Emulsion

PERIODICAL: Plasticheskiye massy, 1960, No. 6, pp. 8 - 10

TEXT: The authors report on experiments of accelerating the polymerization by means of ultrasonics of varying frequency. The polymerization degree was measured dilatometrically during the experiments by an apparatus which is schematically shown in Fig. 1. Ultrasonic irradiation was carrfed out at 28 kc/sec (intensity 3 w/cm^2), 825 kc/sec (2 w/cm^2), or 1600 kc/sec (0.3 w/cm^2). The characteristic values of the ultrasonic apparatus are given in a table. The temperature of the dilatometer was kept at 60±0.5°C. The emulsion formula was: 65 g of styrene, 1.3 g of potassium ricinoleate, 130 ml of distilled water. $K_2S_2O_8$ was used as initiator.

Card 1/2

83412

Influence of Ultrasonics on the Polymerization of Styrene in Aqueous Emulsion

S/191/60/000/006/004/015
B004/B054

No polymerization occurred in ultrasonic irradiation without initiator. An addition of 1% of $K_2S_2O_8$ effected a faster polymerization after 30 min of ultrasonic irradiation than without such irradiation (Fig. 2). The ultrasonic effect became mainly evident in a reduction of the inhibition period at the beginning of the process. Prolonged ultrasonic irradiation changes the course of the process only slightly (Fig. 3). Varying the $K_2S_2O_8$ addition between 0.25 and 1% effected that ultrasonics always exerted an accelerating action, and that the extent of this action became relatively larger with smaller additions of initiator (Fig. 4). Further, the authors studied the influence of ultrasonics on the degasification of water. The results (Fig. 5) led to the conclusion that the ultrasonic effect is partly due to the removal of the inhibiting oxygen dissolved in water. Under the influence of ultrasonics, the authors observed a slow decomposition of the $K_2S_2O_8$ (Fig. 6) which is, however, simulated by the formation of peroxides. These peroxides may also contribute to an accelerated polymerization. There are 6 figures, 1 table, and 5 references: 2 Soviet, 1 US, and 2 German.

Card 2/2

S/191/60/000/007/004/015
B004/B056

15.8104

AUTHORS: Goncharov, G. S., Levin, A. N., Mikhaylov, G. D., Repkin, Yu. A., Shushpanov, P. I.

TITLE: Polymerization by the Action of Ultrasonics on Aqueous Emulsions of Styrene Containing Polystyrene

PERIODICAL: Plasticheskiye massy, 1960, No. 7, pp. 15 - 16

TEXT: The authors give a report on the polymerization of aqueous styrene emulsions carried out by means of an ultrasonic generator at 28 kc/sec (3 w/cm^2), 825 kc/sec (2 w/cm^2), and 1600 kc/sec (0.3 w/cm^3). The polymerization kinetics was dilatometrically determined. Control experiments (Table) showed that 1) ultrasonic irradiation of styrene emulsions without polystyrene and initiators does not lead to polymerization; 2) an emulsion containing 0.5% of polystyrene dissolved in styrene did not polymerize without ultrasonic irradiation. As soon as this emulsion was, however, acoustically irradiated, polymerization set in (Fig. 1):

Card 1/2

85143

Polymerization by the Action of Ultrasonics on Aqueous Emulsions of Styrene Containing Polystyrene

S/191/60/000/007/004/015
B004/B056

This confirms the mechano-chemical character of this process. Addition of potassium persulfate as initiator to the styrene-polystyrene system decreased the polymerization rate (Fig. 2). The authors mention a paper by A. A. Berlin and B. S. El'tsefon. There are 2 figures, 1 table, and 1 Soviet reference.

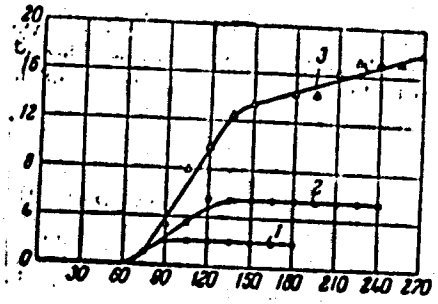


Fig. 1. Effect of ultrasonics upon the styrene-polystyrene system
(1 - 825 kc/sec; 2 - 1600 kc/sec;
3 - 28 kc/sec)

Card 2/2

KONSTANTINOV, V.N., inzh.; LEVIN, A.N., prof., doktor tekhn.nauk

Multiscrew presses for processing plastic materials. Khim. mash. no. 1:3-8 Ja-F '61. (MIRA 14:1)
(Power presses) (Plastics)

89342
S/191/61/000/001/002/015
B101/B205

15.8104

AUTHORS: Golysheva, Ye. Ya., Fragina, A. R., Levin, A. N.

TITLE: Copolymerization of styrene with diallyl fumarate

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 7-9

TEXT: An attempt has been made to obtain a styrene copolymer with a better resilience and resistivity to heat than exhibited by polystyrene. Proceeding from papers by Western authors (Ref.7), copolymerization of styrene with diallyl fumarate (DAF) has been studied. A) Copolymerization in emulsion with an addition of 1.5-25% diallyl fumarate to styrene was performed with sodium hexadecane sulfonate as emulsifier and with the following initiators: a) benzoyl peroxide; b) benzoyl peroxide plus $FeSO_4$; c) isopropyl benzoyl hydroperoxide plus Na_2SO_3. The best results were obtained from the latter initiator: powdery copolymers in a yield of 80-90%. Increasing content of DAF led to slower polymerization than that of pure styrene. In organic solvents, the copolymers were unsoluble or only partly soluble. 5.8 and 2.5% of the copolymer separated with 5 and

Card 1/3

89342

S/191/61/000/001/002/015
B101/B205

Copolymerization of styrene...

10% DAF, respectively. According to an elementary analysis, the copolymers had the following composition:

Ratio of initial monomers		ratio in the copolymer	
styrene	DAF	styrene	DAF
90	10	76.8	23.2
85	15	71.6	28.4
75	25	63.3	36.7

Copolymers with 1.5, 3, and 5% DAF could be easily molded at 150-155°C and 150-180 kg/cm^2. Pressing was complicated by a high content of DAF. According to Martens, copolymers with 1.5-5% DAF withstood a temperature of 84-89°C, and with polystyrene, 80°C. Resilience was 4.2-4.5 kg·cm/cm^2 (polystyrene: 5-15 kg·cm/cm^2); Brinell hardness was 21.5-22.7 kg/mm^2 (polystyrene: 18-19 kg/mm^2). B) Block copolymerization was carried out in sealed ampoules with 10, 15, and 20% DAF, 0.1% benzoyl peroxide; the substance was heated at 60°C until a viscous product had formed, after which it was solidified at 40°C. The entire process took about 200 hr. The polymerization process was completed by heating at 150-160°C for 10 hr. Solid, transparent copolymers could be mechanically treated. Resistivity to heat: 88-92°C; resilience: 15-18 kg·cm/cm^2; Brinell hardness: 21.2-22.8 kg/mm^2. C) Meltable and soluble copolymers were obtained by copolymerization in a solvent (varnish copolymerization). The solvent

Card 2/3

Copolymerization of styrene...

was allyl alcohol in a ratio of 3:1 related to the total number of monomers. After the end of polymerization, the solvent was boiled down in vacuo. A 20% solution in acetone was prepared from the copolymers, which had been purified by dissolution and reprecipitation, and was then applied to metal. After heating, a firmly sticking film of varnish was obtained, which was unsoluble in acetone and withstood a temperature of 200°C for 200 hr and of 300°C for 3-5 hr. The film was tested by means of the Dupont apparatus. The laboratory assistants K. V. Valkina and F. Ye. Shapiro participated in the experiments. There are 1 figure, 1 table, and 9 references: 4 Soviet-bloc and 6 non-Soviet-bloc.

Card 3/3

S/191/61/000/001/007/015
B101/B205

AUTHORS: Balashov, M. M., Levin, A. N.

TITLE: Flow of block polystyrene "D", and development of a rheometer

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 23-30

TEXT: In the introduction to this paper, the theory of flow of non-Newtonian fluids as applied to the flow of molten polymers is discussed on the strength of R. S. Spencer's papers. The methods and apparatus used so far for determining rheological properties are said to be cumbersome and inadequate. In the new rheometer designed by the authors, the molten polymer is pressed simultaneously through two capillaries of different lengths. The flow velocity of the material is equal in both capillaries, and varies continuously in time. The rheometer is shown in Fig.1. Socket (1), which is heated by electric heater (2), contains two channels into which the substance to be tested is introduced. The channels are closed at the bottom by two tightly linked pistons (25), which contain the short and the long capillary (3). The material is pressed through the capillaries by upward motion of the pistons. The pistons are mounted on

Card 1/7

Flow of block polystyrene...

movable plate (23) which is heated by heater (24) and moved by rod (22). The material leaves the pistons through outlets (A). The two channels are closed on top by stoppers (4) which are mounted on slider (13). The latter is moved by screw (11) which passes through immobile cross beam (12). The base of (13) is heated by heater (6). The pressure in the channels is measured with strain gauges which are made up of elastic ring (9) bearing several bridge-connected wire gauges. The channel pressure is transferred to the strain gauges by piston (5) and rod (7), then converted into an electric signal and recorded by an oscilloscope. Material leaking through (4) and (5) is discharged through channel B Rings (9) in socket (8) are fastened to terminals (10). (8) is cooled by water flowing through channels which are not shown in the figure. The flow velocity of the material is proportional to the velocity of pistons (25), which is measured with a pickup consisting of armature (14) with copper winding (15). The armature moves between the poles of a magnet. The pickup has a linear characteristic and must be shielded against external magnetic fields. Velocity and pressure are recorded simultaneously by an oscilloscope. The flow curve may be obtained by one single experiment, by steadily varying the velocity of pistons (25). When the slider is lifted,

Card 2/7

Flow of block polystyrene...

the channels are filled with the material (cylindrical specimens or granuli) from above and are then compressed by stoppers (4) and screws (11). The channels may be filled with previously molten material also through the feeds Б and Г. The pistons may be moved by any steady drive. The figure shows a drive by weight (16), lever (17), toothed wheel (18), and rack (19). Pressure transfer to rod (22) is effected by cup springs (21), whose initial tension is adjusted by pin (20). Thermocouples T_1, T_2, and T_3 are used for temperature regulation. The rheological behavior of "Д" ("D") polystyrene between 160-245°C and up to 220 atm pressure was tested with the rheometer described here. Capillaries 2.6, 2.0, and 1.6 mm in diameter were used for the purpose. The short capillary was 10 mm long, and the long one, 25 mm. Figs.3-5 show various circuit diagrams for the wire strain gauges. Inspite of considerably spread, measurements have shown a sufficiently linear course of the function $\log\Delta P = f(\log\Delta Q)$ (Q = volume velocity of flow expressed in cm^3/sec). The equation $Q/\pi R^3 = [m/(n+3)]\tau_w^n$ (14) was used for calculation. R is the radius of the capillary; m and n are coefficients; and τ is the shear stress. n is

Flow of block polystyrene...

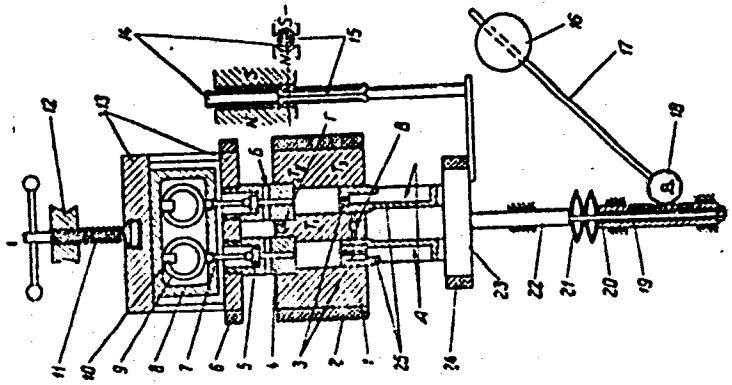
independent of temperature, and equals 3.199 for polystyrene. m is independent of temperature and obeys the equation $m = a \exp(bT)$ (23). $a = 9.502 \cdot 10^{-27}$; $b = 0.0472$. The pressure loss ΔP_{inp} occurring when the material enters the capillary, was calculated from the equation $P_{inp} = (P_c l_1 - P_1 l_c)/(l_1 - l_c)$ (P_c and P_1 denote the pressure in the channels with the short and the long capillary, respectively; l_1 and l_c are the lengths of the long and short capillaries, respectively). The empirical equation $Eu_{inp} = K/Re^{\alpha}$ (24) was obtained for polystyrene. Eu_{inp} is Euler's number; K = const; $Re = \rho v^{2-1/n} R^{1/n} (n+3)^{1-1/n} m^{1/n}$ is the actual Reynolds number; ρ density; R = radius of the capillary; $v = Q/\pi R^2$ is the mean outflow velocity for round capillaries. The linear function $\log Eu_{inp} = f(\log Re)$ was obtained for K = 147.6, $\alpha = 1.037$. Kanavets' plastometer and papers by N. P. Shanin and R. V. Torner are mentioned. There are 12 figures, 1 table, and 15 references: 6 Soviet-bloc and 8 non-Soviet-bloc.

Card 4/7

S/191/61/000/001/007/015
B101/B205

Flow of block polystyrene...

Fig.1



Card 5/7

Flow of block polystyrene...

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B101/B205

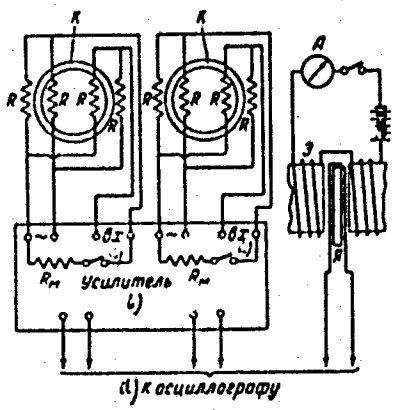


Fig.3

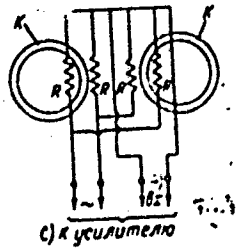


Fig.4

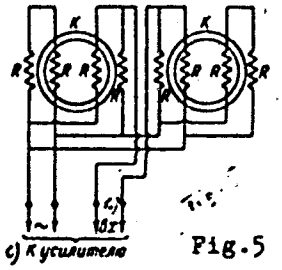


Fig.5

Card 6/7

Flow of block polystyrene...

Legend to Figs. 3-5: K - ring of the strain gauge; R - wire gauges; ∋ - coil of the electromagnet of the pickup; Я - armature of the pickup; R_M - scale resistor; a) input; b) amplifier; c) to amplifier; d) to oscilloscope.

Card 7/7

KAPLUN, Ya.B.; LEVIN, A.N.

Method for the design of extruder feed throats. Plast.massy no.3:54-60 '61. (MIRA 14:3)

(Extrusion process) (Thermoplastics)

BALASHOV, M.M., inzh.; LEVIN, A.N., doktor tekhn.nauk, prof.

Solving some problems of the flow of fused polymers in screw presses. Khim. mash. no.6:29-33 N-D '61. (MIRA 15:2)

(Polymers)
(Power presses)

STEPCHENKO, V.N.; LEVIN, A.N.

Continuous method of producing poly (vinyl alcohol). Plast.massy no.8:52-57 '61. (MIRA 14:7)
(Vinyl alcohol polymers)

LEVIN, Boris Menakhemovich, dots., kand. ekonom. nauk; LEVIN, Abram Naumovich, doktor tekhn. nauk, prof.; PETRUSHEV, I.M., red.; TER-STEPANYANTS, M.S., red.; GERASIMOVA, Ye.S., tekhn. red.

[Using plastics and saving materials in industry] Primenenie plastmass i ekonomiia materialov v promyshlennosti. Moskva, Ekonomizdat, 1962. 242 p. (MIRA 15:6)
(Plastics)

KALINCHEV, E.L.; LEVIN, A.N.

Main processes occurring inside injection molds. Plast.massy no.3:57-62 '62. (MIRA 15:4)
(Plastics—Molding)

S/191/62/000/004/013/017
B110/B138

15.8090

AUTHORS: Goncharov, G. S., Levin, A. N., Ryvkin, G. A.

TITLE: Absorption method of drying formaldehyde

PERIODICAL: Plasticheskiye massy, no. 4, 1962, 50-52

TEXT: The selective water absorption of some organic solvents was used to dry formaldehyde. Hydrocarbons with limited miscible with water (benzene, toluene, carbon tetrachloride, etc.) have greater water absorption at higher temperature. About 80°C is the optimum for toluene, owing to the relatively low vapor pressure and high water solubility (~0.5 %). Monomer formaldehyde was passed continuously through a Raschig ring-packed absorption tower with carefully dried toluene as absorbent. No traces of polymers appeared after 10 hrs. The thermal stability of the polymer obtained is the criterion of the quality of drying. α-polyoxy methylene was vaporized in the destructor (1, Fig. 2) at 160°C. The gas-vapor mixture bubbles continuously through dried toluene at 80°C, and reaches the reaction vessel (7) via 3, 4, 5, and 6 for polymerization. The reaction medium was anhydrous toluene or gasoline. The initiator was 0.025 % (by

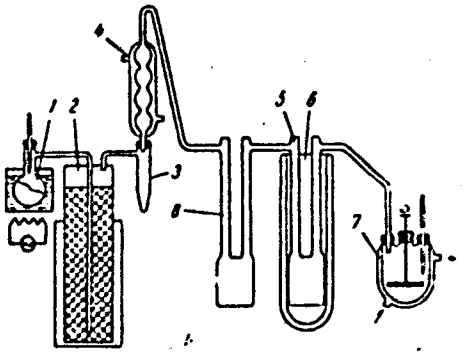
Card 1/2

Absorption method of drying...

weight of the reaction medium) calcium stearate. No polymer was separated in cooler and separator. The good thermal stability and homogeneity of the polyformaldehyde obtained show that the continuous method is to be recommended. There are 6 figures.

Fig. 2.
Diagram of system for drying formaldehyde.

Legend: (1) destructor, (2) absorption column, (3) trap, (4) contra-flow cooler, (5) cooler, (6) Dewar flask, (7) reaction vessel, (8) demister.



Card 2/2

KONSTANTINOV, V.N.; LEVIN, A.N.

Performance of multiple-screw extruders with zeshing worms.
Plast.massy no.5:47-52 '62. (MIRA 15:4)
(Extrusion (Plastics))

LEVIN, A.N.; SHERYSHEV, A.A.

Ways for raising the technical level of the production of plastics and plastic goods. Plast.massy no.10:1-2 '62. (MIRA 15:11)

(Plastics industry)

UTKIN, V.V.; LEVIN, A.N.

Block polymerization of styrene in a tube still. Plast. massy no.10:8-11 '62. (MIRA 15:11)
(Styrene) (Polymerization)

S/191/62/000/011/003/019
B101/B186

AUTHORS: Utkin, V. V. Levin, A. N.

TITLE: Study of the kinetics of styrene bulk polymerization

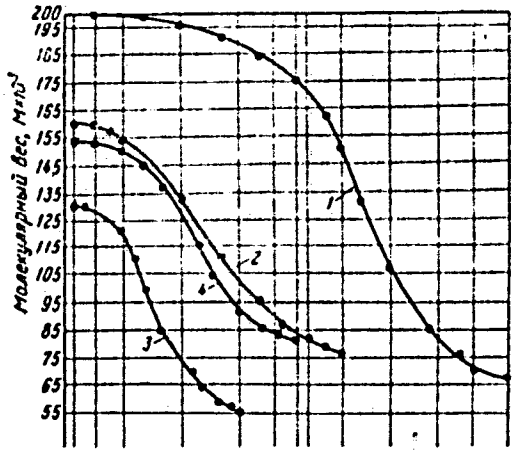
PERIODICAL: Plasticheskiye massy, no. 11, 1962, 8-9

TEXT: In order to improve the industrial production of bulk polystyrene the kinetics of the polymerization was studied. Pure styrene was heated in ampoules in 0.5 atm argon, determining the amount and molecular weight of polystyrene formed under various temperature conditions. The results (Fig.) led to the following conclusions: (1) Most of the styrene polymerizes between 100 and 150°C; (2) an increase from 150 to 220°C in the late stage of polymerization does not accelerate it further; (3) after 85% of styrene, is converted it takes another 16-18 hrs to polymerize the rest monomer at 150-220°C, (4) to speed up polymerization the temperature must be raised in the second stage and toward the end of the process; (5) polymerization according to the data of curve 4 (Fig.) makes it possible to produce polystyrene with a molecular weight of 80,000 within 40 hrs. There are 1 figure and 1 table.

Card 1/2

Study of the kinetics of ...

Fig. Kinetics of styrene polymerization and change of the molecular weight. Abscissa: τ, hrs; ordinate: molecular weight.



Card 2/2

S/063/62/007/002/009/014
A057/A126

AUTHORS: Garbar, M.I., Levin, A.N. Professor, Sagalayev, G.V.

TITLE: Modern methods for the processing of plastics

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni D.I. Mendeleyeva, v. 7, no. 2, 1962, 207 - 211

TEXT: The scope of the present paper is to give some directions for the intensification and development of the Soviet plastics industry. To increase the productivity of presses one of the basic problems is the development of quick hardening of compression materials. The use of pure raw materials in the processing of polycondensation plastics and suitable filler compounds is expedient. An exchange of phthalic anhydride to isophthalic acid in the production of non-saturated polyester resins increases considerably the hardening rate and elasticity of the corresponding plastics. To simplify the proportioning of the raw material the weight of tablettes must be equal to the weight of the product and for this reason hydraulic tabletting machines should be used to a greater extent. High-frequency pre-heating is of advantage to reduce the holding time. One of the basic factors for high productivity is the exact temperature at the compres-

Card 1/3

sion. Since automation is also of great importance, automatic presses with high productivity (above 3 - 5 million pieces per year) should be constructed. Another type of automation can be attained with rotor lines of automates, which is realized for instance in the Plant "Karbolit" for the production of pressed switch parts. One of the modern plastics processing method is casting compression, applied to thermoreactive materials in the manufacture of electric insulating articles. This method is insufficiently studied yet and besides complicated. Investigations in die casting, the basic method for the processing of thermoplastic materials, should be developed. At the present time several types of die casting machines were constructed in the USSR for 8, 16, and 32 cm^3 articles without pre-mastication, for 63, 125, 250, 500, and 1000 cm^3 with single screw-conveyer pre-mastication, and vertical die casting machines for 2,000 cm^3 articles with double screw-conveyer mastication. Casting machines with one cylinder used for mold locking and injection of the material are of interest for the production of articles up to 100 g/cycle. Casting without pressure is becoming more important for epoxide and polyamide resins and foamed plastics. However, special attention should be paid here to mechanization and automation. Extrusion is a recently developed method applied to various thermoplastic articles. Rotating extruders (or with rotating cap) are of special interest for this type of

Modern methods for the.....

plastics processing. Vacuum molding is used in several variations chiefly for the production of sheet materials. Among the different methods of vacuum-molding of thermoplastics, the authors recommend the positive molding with mobile molds. In production of glass-reinforced plastics some special problems should be considered. Of great importance for the processing of plastics is the development and standardization of the corresponding equipment. Thus, it is planned to manufacture thousands of molds by means of modern methods and cheaper materials in special factories. Another important problem is the development of theoretical principles for the calculation and construction of plastics articles. There are 6 figures.

Card 3/3

LEVIN, A.N., doktor tekhn. nauk, red.; TROITSKAYA, L.P., red.
PRIDANTSEVA, S.V., tekhn. red.

[Problems in the extrusion of thermoplastics; translated articles] Voprosy ekstruzii termoplastov; sbornik perevodov. Moskva, Izd-vo inostr. lit-ry, 1963. 333 p. (MIRA 16:6)
(Thermoplastics) (Extrusion process)

AM4020387 BOOK EXPLOITATION S/

Klinov, I. Ya.; Levin, A. N.

Plastics in the chemical-engineering industry (Plastmassy* v khimicheskom mashinostroyenii) Moscow, Mashgiz, 1963. 214 p. illus., biblio., append. 7500 copies printed. Reviewer: Olenov, B. A.; Editor: Preobrashenskiy, A. Yu.; Managing editor: Ry*bakova, V. L.; Editor of the publishing house: Ry*zhova, L. P.; Technical editors: Denkina, N. F., Gerdeyeva, L. P.; Proofreader: Piryazev, P. A.

TOPIC TAGS: plastics, chemical industry, phenolformaldehyde, silicone polymers, furyl resins, epoxide resins, glass textolites, polyvinyl chloride, vinyl plastic, polyethylene, polypropylene, fluoroethylenes, chloroethylenes, vinyl asbestos, graphites

PURPOSE AND COVERAGE: This book is intended for engineers and technicians in planning organizations and plants in the chemical-engineering and the chemical industries. It may be of use also for students in engineering and machine-design vuzes. The book contains interesting and practical information concerning

Card 1/5

AM4020387

plastics and their properties and application in the chemical-engineering industry both as independent structural materials and as protective coatings. Characteristic structural apparatuses and parts made of plastics are described, and methods are given for designing apparatuses made of familiar plastics (vinyl, faolite, etc.). O. Z. Vashin assisted the authors in writing Chapter VI, and Chapter XIII was written by A. V. Melekanov and A. N. Levin.

TABLE OF CONTENTS:

Card 2/5

KALINICHEV, E.L., inzh.; LEVIN, A.N., doktor tekhn.nauk, prof.

Calculating the force necessary for closing the molds of molding machines. Khim.mashinostr. no.2:8-10 Mr-Ap '63. (MIRA 16:4)
(Plastics—Molding)

GONCHAROV, G.S.; LEVIN, A.N.; RIVKIN, G.A.

Catalytic action of some substances on the process of thermal degradation of α-polyoxymethylene. Plast.massy no.2:62-63 '63. (MIRA 16:2)

(Polyoxymethylene) (Catalysis)

KLINOV, I.Ya.; LEVIN, A.N. Prinimali uchastiye: MOLOKANOV, A.V.; VASHIN, G.Z.; OLENEV, B.A., inzh., retsenzent; PREOBRAZHENSKIY, A.Yu., red.; RYZHOVA, L.P., inzh., red. izd-va; DEMKINA, N.F., tekhn. red.; GORDEYEVA, L.P., tekhn. red.

[Plastics in the manufacture of chemical machinery] Plastmassy v khimicheskom mashinostroenii. Moskva, Mashgiz, 1963. 214 p. (MIRA 17:1)

ZLATINA, S.A.; LEVIN, A.N.

Obtaining chemically uniform copolymers. Plast.massy no.10:3-7 '63. (MIRA 16:10)

LEVIN, Abram Naumovich, prof.; PAYNBOYM, I.B., red.

[Plastic material number one] Plastik nomer odin. Moskva, Izd-vo "Znanie," 1964. 37 p. (Novoe v zhizni, nauke, tekhnike. XI Seriia: Khimiia, no.3) (MIRA 17:6)

LEVIN, A. N.

"Neprerývnye protsessy v proizvodstve polimerov."

report submitted for 35th Intl Cong, Industrial Chemistry, Warsaw, 15-19 Sep 64.

KAPLUN, Ya.B.; LEVIN, A.N.

Design and construction of the inlet area of the extruder. (MIRA 17:6)
Plast.massy no.1:39-46 '64.