

TATEOSOVA, Ye.K.

Primary suture of the flexor tendons and of the median and radial nerves
in the lower third of the forearm. Vest. khir. 71 no.1:70 1951.
(CIML 20:8)

TATSOVA, E.K. (Leningrad)

Dynamics of modifications of a fragment of tissue implanted under
the skin during Filatov-Rumiantsev's transplantation. Arkh. pat.,
15 no.5:79-81 S-0 '53. (MLRA 6:12)

1. Iz patologoanatomicheskogo otdeleniya (zaveduyushchiy - professor
P.V.Sipovskiy) Gosudarstvennogo travmatologicheskogo instituta im.
E.E.Vredena.
(Spleen--Transplantation) (Testicle--Transplantation)

TATEOSOVA, E.K.

Subtrochanteric osteotomy as a method for correction of a defective position of the hip. Trudy Len.gos.nauch.-issl.inst. travm.i ortop. no.7:170-176 '58. (MIRA 13:6)

1. Iz ortopedicheskogo otdeleniya Leningradskogo gosudarstvennogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii. (OSTEOTOMY) (HIP JOINT--ABNORMITIES AND DEFORMITIES)

TATEOCOVA, E.K.

Surgical treatment of partial gigantism. Khirurgiia 34 no.2:138-319
(MIRA 11:4)
P '58.

1. Iz ortopedicheskogo otdeleniya (zav. - prof. Ya.S. Yusevich)
Leningradskogo nauchno-issledovatel'skogo instituta travmatologii
i ortopedii (dir. - prof. V.S. Balakina)

(FINGERS AND TOES, dis.)

partial gigantism, surg. indic. (Rus))

(GIGANTISM, surg.)

partial, of fingers and toes, indic. (Rus))

TATEOSOVA, Ye.K.

Surgical treatment in osteochondropathies of metatarsal bone heads.
Ortop., travm. i protez. 22 no.2:22-28 F '61. (MIRA 14:3)
(METATARSUS---DISEASES)

TATEVOSOV, K.G., kandidat tekhnicheskikh nauk, dotsent.

Measures taken to insure steady production and the economic significance
of these measures. Trudy LII no.8:17-33 '54. (MIRA 9:9)
(Machinery industry)

TATVOSOV, Y.G., kandidat tekhnicheskikh nauk, dotsent.

Uniform flow index in machine-building. Trudy LII no.10:107-127
'55. (MLRA 9:8)

(Machinery industry) (Assembly-line methods)

TATVOSOV, K.G.; LIPKIND, L.M.; PETROV, V.A.; ZEYDA, M.I.; SLIZHIS, M.U.,
nauchnyy redaktor; BORSHEVSKAYA, S.I., redaktor; RODCHENKO, M.I.,
tekhnicheskiy redaktor

[Smoothly organized work in a machine manufacturing plant; collaboration of the V.M.Molotov Institute of Engineering and Economics in Leningrad with the "Pnevmatika" plant] Organizatsiia ritmichnoi raboty mashinostroitel'nogo zavoda; iz opyta sodruzhestva Leningradskogo inzhenerno-ekonomicheskogo instituta imeni V.M.Molotova s zavodom "Pnevmatika" [Leningrad] Lenizdat, 1956. 175 p. (MLRA 10:7)
(Efficiency, Industrial)

TATVOSOV, K.G., kandidat tekhnicheskikh nauk, dotsent.

Standardizing the intershop storage reserves in uniform production.

Trudy LPI 46:14:39-56-57. (7-10:7) (MIRA 10:7)

(Industrial management) (Production standards)

TATEVOSOV, K. S.

25(5)

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PHASE I BOCK EXPLOITATION

SOV/1392

Leningrad. Inzhenerno-ekonomicheskii institut

Organizatsiya i planirovaniye ravnomernoy raboty mashinostroitel'nykh predpriyatiy; Mezhvuzovskoye soveshchaniye. Doklady (Organization and Planning of Uniform Work in Machine-building Enterprises; Conference of Vuzes. Reports) Moscow, Mashgiz, 1958, 466 p. (Series: Its: Trudy, vyp.22) 4,000 copies printed.

Eds.: S.A. Volkov, and K.G. Tatevosov.; Tech. Ed.: L.V. Sokolova; Managing Ed. for Literature on Machine-building Technology (Mashgiz): Ye.P. Naumov, Engineer.

PURPOSE: This collection of articles is intended for engineering and technical personnel in machine-building establishments, and for scientific workers and students of institutes and departments of engineering and economics.

COVERAGE: This collection of articles contains reports by workers from vuzes, scientific research institutes, and industrial establishments presented at the conference of vuzes on the subject: "Organization and Planning of Uniform Operations in Machine-building Establishments." These reports discuss general problems encountered in organization, analysis, and theory of uniform production, as well as problems in schedule planning, technical preparation, and production specialization.

Card 1/ 8

Organization and Planning of Uniform (Cont.)

SOV/1392

TABLE OF CONTENTS:

Introduction

3

Satel', E.A., Professor, Doctor of Technical Sciences (Moskovskiy inzhenero-ekonomicheskij institut imeni Ordzhonikidze [Moscow Institute of Engineering and Economics imeni Ordzhonikidze]). Planning of Technical Progress in Machine Building as a Prerequisite for Correct Organization of "Rhythmic" [Balanced] Production 18

Tatevosov, K.G., Docent, Candidate of Technical Sciences (Leningradskiy inzhenero-ekonomicheskij institut [Leningrad Institute of Engineering and Economics]). Studies Under the Auspices of the Department of Organization and Planning at the Leningrad Institute of Engineering and Economics in the Field of the Uniformity of Production in Machine-building Plants 42

Ganshtak, V.I., Docent, Candidate of Economic Sciences, and I.A. Rozenberg, Docent, Candidate of Economic Sciences (Ural'skiy Politekhicheskiy Institut imeni Kirova [Ural Polytechnic Institute imeni Kirov]). Some Problems in the Practice of Organizing Rhythmic Operations in the Machine-building Plants of the Urals 51

Card 2/8

Organization and Planning of Uniform (Cont.)

SOV/1392

- Firsov, V.G., Engineer (Leningradskiy Kirovskiy zavod) [Kirov Plant in Leningrad]). Practices in Planning Rhythmic Production at the Kirov Plant 59
- Klimov, A.N., Docent, Candidate of Technical Sciences, and S.A. Sokolitsyn, Docent, Candidate of Technical Sciences (Leningradskiy politekhnicheskii institut imeni Kalinina [Leningrad Polytechnic Institute imeni Kalinin]). Indices of Rhythmic Work and Uniformity in Product Output in Lot Machine Building 69
- Kantov, N.N., Engineer (Gor'kovskiy Politekhnicheskii institut [Gor'kiy Polytechnical Institute]). Introduction of a New Method of Calculating and Regulating Lot Production in Establishments in Gor'kiy 78
- Nelidov, I.Ye., Docent, Candidate of Technical Sciences (Moskovskiy energeticheskiy institut [Moscow Power Engineering Institute]). Production Rhythm and Utilization of Productive Capacity in Machine-building Plants Specializing in Individual and Small Lot Production (Based on the Example of Power Machinery-manufacturing Plants) 94
- Lipkind, L.M., Docent, Candidate of Economic Sciences, and V.A. Petrov, Docent, Candidate of Technical Sciences (Leningrad Institute of Engineering Card 3/8

Organization and Planning of Uniform (Cont.)

80V/1392

- and Economics). Key Problems in Intershop Schedule Planning of Production 106
- Slodkevich, N.I., Docent, Candidate of Economic Sciences (Moscow Institute of Engineering and Economics imeni Ordzhonikidze). Problems of Operational and Production Planning in Single Unit and Small Lot Machine Building 119
- Alibekova, A.M., Docent, Candidate of Economic Sciences (Azerbaydzhanskiy Industrial'nyy institut imeni Azizbekova [Azerbaijan Industrial Institute imeni Azizbekov]). Effect of Rhythmic Operation of an Establishment on Production Costs 130
- Veselkov, F.S., Candidate of Economic Sciences (Moskovskiy ekonomicheskiy institut [Moscow Economic Institute]). Role and Objective of Finances in the Struggle for Rhythmic Operation of Establishments 135
- Dadashev, B.A., Economist (Azerbaydzhanskiy institut narodnogo khozyaystva imeni Karla Marksa [Azerbaijan Institut of National Economy imeni Karl Marx]). Rhythmic Organization of Production and Uniform Production Output in Plants Specializing in Series and Small Lot Production Based on the Example of Baku Plants Manufacturing Petroleum Equipment 144

Card 4/8

Organization and Planning of Uniform (Cont.)

80V/1392

- Kolmakov, N.A., Engineer (Leningradskiy zavod poligraficheskikh mashin [Leningrad Polygraphic Equipment Plant]). Organizing Uniform Production and Output of Polygraphic Equipment 151
- Dobronravov, I.N., Engineer (Ivanovskiy zavod tekstil'nogo mashinostroyeniya [Ivanovo Textile Machine-building Plant]). Organization of Uniform Operations at the "Ivtekmash" Plant 156
- Kats, A.S., Docent, Candidate of Economic Sciences (Leningrad Institut of Engineering and Economics). Planning Technical Preparation as a Factor of Improved Uniformity in Production 175
- Lyubavskiy, V.I., Docent, Candidate of Technical Sciences (Leningrad Institute of Engineering and Economics). Planning Rhythmic Processes of Machining Parts in Lot Production 188
- Mashistov, A.I., Candidate of Economic Sciences (Leningrad Institute of Engineering and Economics). Methodology Used in Establishing Consolidated Standards for Labor Content Going Into Production of a Die (Based on the example of plants in the Instrument-manufacturing Branch) 205

Card 5/8

Organization and Planning of Uniform (Cont.)

SOV/1392

- Tolstyykh, A.S., Docent, Candidate of Economic Sciences. (Moskovskiy institut narodnogo khozyaystva imeni Plekhanova [Moscow Institut of National Economy imeni Plekhanov]). Planning the Length of the Production Cycle as a Factor Assuring Rhythmic Operation of an Establishment 217
- Sokolitsyn, S.A., Docent, Candidate of Technical Sciences, and A. N. Klimov, Candidate of Technical Sciences (Leningrad Polytechnical Institut imeni Kalinin). Methods of Setting up Banks in Lot Production 225
- German, B.A., Engineer. Calculating Schedule Planning Standards on the Basis of Group Series in an Instrument-manufacturing Plant 232
- Al'perovich, A.M., Engineer (Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut [All-Union Scientific Research Institute for Tools]). Effect of Banks and Their Make-up on the Uniformity of Tool Production 246
- Retrov, V.A., Docent, Candidate of Technical Sciences (Leningrad Institute of Engineering and Economics). Methodology in Classifying Product in Organizing and Planning Uniform Operation of an Establishment 258

Card 6/8

Organization and Planning of Uniform (Cont.)

SOV/1392

- Byalkovskaya, V. S., Candidate of Economic Sciences (Moscow Institute of Engineering and Economics, imeni Ordzhonikidze).
Increasing the Level of Technology and Organization of Production in Forge Shops as a Factor in Assuring Rhythmic Operation of the Plant 318
- Kats, A. S., Docent, Candidate of Economic Sciences (Leningrad Institute of Engineering and Economics). The Most Important Indices of Forge Shop Operations 326
- Gol'bin, Ya.K., K.I. Nevel'skaya and B.V. Pashkevich, Candidates of Economic Sciences (Institut ekonomiki Akademii nauk BSSR [Institute of Economics of the Academy of Sciences of the BSSR]). Rhythmic Operation as the Most Important Condition for Transition to New Operating Conditions 332
- Kantorovich, L.V., Professor, Doctor of Physical and Mathematical Sciences (Leningradskoye otdeleniye Matematicheskogo instituta AN SSSR [Leningrad Branch of the Mathematics Institute of the AS USSR]). Possibilities of Applying Mathematical Methods in Production-planning Problems 338
- Ivanov, A.A., Candidate of Physical and Mathematical Sciences (Leningrad Branch of the Mathematics Institute of the AS USSR). Mathematical Analysis of Some Problems in the Operational Planning of Production 354

AVAILABLE: Library of Congress

Card 8/8

JG/fal
5-24-59

TATEVOSOV, K.G., dotsent, kand.tekhn.nauk

*Dispatcher control of the utilization of equipment in the machinery
by L.D. Gol'denberg. Reviewed by K.G. Tatevosov. Izv. vys. ucheb.zav.;
prib. no.2:166-167 '58. (MIRA 11:7)
(Factory management)
(Gol'denberg, L.D.)

TATEVOSOV, K.G., prof., red.; SUVOROV, I.V., red.; VODOLAGINA, S.D.,
tekhn. red.

[Fundamentals of the organization of a socialist machinery
plant.] Osnovy organizatsii sotsialisticheskogo mashinostroitel'no-
go predpriiatia. Pod red. K.G.Tatevosova. Leningrad, Izd-vo
Leningr. univ., 1961. 131 p. (MIRA 15:2)

1. Leningrad. Leningradskiy inzhenerno-ekonomicheskii institut.
(Machinery industry)

PETROV, Vladimir Arsent'yevich; KOLMAKOV, Nikolay Alekseyevich; EPEL'MAN, Gilel' Grigor'yevich. Primali uchastiye: NIKITIN, V.V.; MOROZOV, I.I.; SIVOKHA, N.V.; UTROBINA, N.I.; NIKITINA, N.N.; PANKOV, N.N.; BAUSHEV, N.P.; TATEVOSOV, K.G., dots.; LIPKIND, L.M.; LEBEDEVA, A.K., inzh.-ekon.; VIL'DAVSKIY, I.M., dots., retsenzent; VOLKOV, S.A., kand. ekon. nauk, dots., red.; CHFAS, M.A., red. izd-va; PETERSON, M.M., tekhn. red.

[Continuous conveyer methods used in the lot production of composite machines] Potochno-konveiernye metody v seriino m proizvodstve slozhnykh mashin; iz opyta Leningradskogo zavoda poligraficheskikh mashin. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 130 p. (MIRA 14:9)

1. Rabotniki Leningradskogo zavoda poligraficheskikh mashin (for Nikitin, Morozov, Sivokha, Utrobina, Nikitina, Pankov, Baushev). 2. Leningradskiy inzhenerno-ekonomicheskii institut (for Tatevosov, Lipkind, Lebedeva).

(Leningrad--Printing machinery and supplies)
(Factory management)

TATEVOSOV, Konstantin Georgiyevich; SOKOLITSYN, S.A., kand. tekhn. nauk, dots., retsenzent; KLIMOV, A.N., kand. tekhn. nauk, dots., retsenzent; VARKOVETSKAYA, A.I., red. izd-va; SPERANSKAYA, O.V., tekhn. red.

[Establishment of norms for a uniform production flow in series-manufacture of machinery] Normativnye raschety ravnomernogo proizvodstva v seriinom mashinostroenii. Moskva, Mashgiz, 1961.
246 p. (MIRA 15:2)

(Machinery industry--Production standards)

TATEVOSOV, K.G., doktor ekonom.nauk,prof.; SHEYNMAN, R.P., inzh.

Establishing an optimum schedule and volume plan for a shcp
(section) with diversified production. Vest.mashinostr. 44 no.7:
72-77 J1 '64. (MIRA 17:9)

TATEVOSOV, K.G.; VLASOV, B.V., doktor ekon. nauk, prof.,
retsensent

[Principles of operation and production planning in a
machinery-manufacturing enterprise] Osnovy operativno-
proizvodstvennogo planirovaniia na mashinostroitel'nom
predpriatii. Moskva, Mashinostroenie, 1965. 375 p.
(MIRA 18:5)

TATEVOSOV, S.R.

DECEASED

1962/3

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SEE ILC

MEDICINE

BOGUTSKIY, B.V.; KOKSHA, V.G.; TATEVOSOV, S.R. (Yalta)

50th Anniversary of the I.M. Sechenov Institute of Medical
Climatology and Climatotherapy. Vop. kur., fizioter. i lech.
fiz. kul't. 30 no.1:90-92 Ja-F '65. (MIRA 18:8)

TATEVOSOV, S.R.

Aprpos N.I. Speranski's article "Problem as to sanatorium
and health resort treatment of stenocardia." Vop. kur., fizioter.
i lech. fiz. kul't. no.6:562-563 '63. (MIRA 17:8)

1. Iz Instituta klimatologii i klimatoterapii imeni I.M.
Sechenova, Yalta.

TATEVOSOV, T., BOGUTSKIY, B., FEDOROV, Ye., POPOV, A., OSHEROVSKIY, Kh.,
BOKSHA, V., KARASEV, M.

Georgii Petrovich Fedorov; an obituary. Vrach. delo no.9:999 8'58
(FEDOROV, GEORGII PETROVICH, 1900-1958) (MIRA 11:10)

TATEVOSOVA, V. N.

Tatevosov, S. R., Tatevosov, V. N., and Samsonov, M. A. "The reaction of the cardiovascular system to mud treatment in certain cardiovascular diseases", Sbronik nauch. trudov kurorta Saki, Vol. IV, 1948, p. 133-42

So: U-3261, 10 April 1953 (Letopis 'Zhurnal 'nykh Statey, No. 12, 1949).

KUZIN, M.I. (Moskva, ul. Gribau, d. 13, korpus 1, kv. 27); ZHARIKOV, A.A.; TATEVOSYAN, A.S.

Some essential problems concerning operative methodology in primary cancer of the lungs. Grad. khir. 6 no.6:47-52 N P 1971.
(MIRA 18 7)

1. Fakul'tetskaya khirurgicheskaya klinika (zav. - prof. B.N. Yelanskiy [deceased]) i Moskovskogo meditsinskogo instituta imeni I.M. Sechenova.

ATAMETOV, T.U.; BULIDOV, N.G., dotsent; DOLGUSHIN, A.G.; KASSIRSKIY, A.A.;
LIMANOVSKIY, A.A., inzh.; NISENGAUZ, A.D.; TATEVOSYAN, A.S.

For a correct interpretation of the relation between gin capacity
and the volume of ginning output. Tekst.prom. 20 no.3:32-35 Mr '60.
(MIRA 14:5)

1. Rukovoditel' laboratorii syr'ya Tsentral'nogo nauchno-issledovatel'-
skogo instituta khlopkovoy promyshlennosti (for Atametov).
2. Tash-
kentskiy institut inzhenerov irrigatsii i mekhanizatsii sel'skogo
khozyaystva (for Gulidov).
3. Glavnyy inzh. Tashkentskogo
khlopkozavoda (for Dolgushin).
4. Rukovoditel' laboratorii ispytaniya
khlopka Tsentral'nogo nauchno-issledovatel'skogo instituta khlopkovoy
promyshlennosti (for Kassirskiy).
5. Glavnyy spetsialist nauchno-
tekhnicheskogo komiteta Soveta Ministrov UzSSR (for Nisengauz).
6. Nachal'nik Otdela khlopka Gosplana UzSSR (for Tatevosyan).
(Cotton gins and ginning)

TATEVOSYAN, A.T.

Economic effectiveness of using coarse porous concrete in Georgian
S.S.R. Trudy nauch.korr.Inst.stroi.dela AN Gruz.SSR no.1:53-63
'56. (MIRA 13:5)

(Georgia--Lightweight concrete)

TATEVOSYAN, A. T.

"Highly Porous Concrete in the Structural Production of the Georgian SSR." Card Tech Sci, Tbilisi Inst of Railroad Transport Engineers imeni V. I. Lenin, Min Transportation, Tbilisi, 1954. (KL, No 9, Feb 55)

SO: Sum. No. 631, 26 Aug 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

TER-POGOSYAN, R.A.; TATEVOSYAN, A.V.

Induction of phage by lysogenic cultures of Escherichia coli by
the use of X rays. Radiobiologia 1 no.5:813-814 '61.

(MIRA 14:11)

1. Sektor radiobiologii AN Armyanskoy SSR, Institut epidemiologii
i gigineny, Yerevan.

(X RAYS—PHYSIOLOGICAL EFFECT)

(BACTERIOPHAGE)

TATEVOS'YAN, G.

At the Exhibition of Achievements of the National Economy of the
U.S.S.R. Plastics in the machinery manufacture. Plast.massy no.2:1-4
'62. (MIRA 15:2)
(Plastics--Exhibitions) (Machinery industry)

TATEVOGYAN, G.

Put science at the service of the national economy. Prom.Arm.
5 no.4:8-11 Ap '62. (MIRA 15:5)
(Armenia—Research, Industrial)

TATEVOSYAN, G.

New stage in the development of the construction industry in
Armenia. Prom.Arm. 6 no.2:3-6 F '63. (MIRA 16:5)

1. Zaveduyushchiy otdelom stroitel'stva i gorodskogo khozyaystva.
(Armenia—Construction industry)

TATEVOSYAN, G.A., inzh.

Effect of the rake angle of a cutting tool on the combined cutting forces in various ranges of the cutting speed. Sbor. nauch. trud. (MIRA 14:5)
ErPI no. 20:37-52 '59. (Metal cutting)

TATEVOS'YAN, G.O.

28-1-24/42

AUTHOR: Losev, I.P., Professor, Doctor of Technical Sciences, Tatevos'yan, G.O., Engineer

TITLE: A Plastic Test Method (Metod ispytaniya plastikata)

PERIODICAL: Standartizatsiya, # 1, Jan-Feb 1957, p 69-71 (USSR)

ABSTRACT: The article contains critical remarks to standard "ГОСТ 5960-51" for polychlorovinyl cable plastic (soon to be revised), concerning the test method prescribed, which consists of exposing two specimens to the light of two carbon arc lamps in an artificial-weather apparatus at $70^{\circ} \pm 1^{\circ}$ C. After aging, the specimens must not be sticky and they must not crack when bent 180° at an air temperature of 20° C. The following critical statements are made: The duration of test (1000 hrs) is too long. The aging limit is determined by visible and feelable changes in plastic, which results in a very considerable amount of errors. The nature of structural changes as a result of exposure is not revealed; the service life of arc lamp reflectors is unlimited, though residual structure changes take place in the glass under the influence of ultraviolet rays, and these changes affect the spectral composition of luminous energy. The test apparatus

Card 1/3

A Plastic Test Method

28-1-24/42

"III -1-2" has defects of design, mainly temporary failures of one of the two light sources, causing unequal exposure of specimens. Description is given of a new apparatus "АНПСТ -2-4-2", designed by the Research and Planning Institute for Plastics, for testing light resistance, thermic resistance, and aging of cable plastics in atmospheric and artificial conditions. This apparatus has two carbon arc lamps and four mercury lamps "НПК -2". About 384 specimens are tested simultaneously. The spectral composition and intensity of light is controllable in a sufficiently wide range. The service life of lamps is limited. The automatic system eliminates test errors as a result of light source failures. The processes taking place in plastics during aging were studied mainly on uncolored specimens of grades 230, 239, 251 and 489, in the described apparatus and under natural conditions, on stands in Moscow and Tbilisi. The basic physical and mechanical data were found. Placing specimens on paper (in the form of small shovels) was avoided because the plasticizer migrated into the paper. It is stated that it is possible to inhibit some of the processes taking place in plastics and to intensify other processes by changing the spectral composition and intensity of luminous energy. The authors suggest the inclusion of the described apparatus and method into the revised

Card 2/3

A Plastic Test Method

28-1-24/42

standard.

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Card 3/3

TATEVOS'YAN, G. O., Cand Tech Sci -- (diss) "Study in the field of ^{the}
aging of polyvinyl chloride masticated rubber under the effect of
light energy." Mos, 1958. 24 pp (Min of Higher Education USSR,
Mos Order of Lenin Chem-Technol Inst im D. I. Mendelejev), 200
copies (KL, 15-58, 116)

-49-

TATEVOS'YAN, Georgiy Ovanesovich; KALININA, L.S., nauchnyy red.;
~~BASHKOVICH, A.B., red.; BAKOV, S.I., tekhn.red.~~

[Plastics and their use in the national economy] Plastmassy
i ikh primeneniye v narodnom khoziaistve. Moskva, Vses.uchebno-
pedagog.izd-vo Trudrezervizdat, 1959. 134 p. (MIRA 12:11)
(Plastics)

TATEVOS'YAN, G.O.

Improved artificial weather testing instruments (weatherometers).
Lakok'as.mat. i ikh prim. no.1:73-74 '60. (MIRA 14:4)
(Protective coatings--Testing)

TATEVOS'YAN, G.O.

Soviet and foreign weatherometers and standards for them. Lakokras.
mat.i ikh prim. no.3:65-70 '60. (MIRA 14:4)
(Weathering) (Testing machines)

S/191/60/000/006/001/015
B004/B054

AUTHOR: Tatevos'yan, G. O.

TITLE: Plastics at the Exposition of Achievements of the USSR National Economy

PERIODICAL: Plasticheskiye massy, 1960, No. 6, p. 1

TEXT: In the showroom of plastics (pavilion of the chemical industry) at the Vystavka dostizheniy narodnogo khozyaystva SSSR (Exposition of Achievements of the USSR National Economy), 1960, the Orekhovo-Zuyevskiy zavod "Karbolit" (Orekhovo-Zuyevo "Karbolit" Plant) demonstrates its development and technical equipment, production samples, and photographs of collaborators. On show are the automatic electronic control of hydraulic presses by means of electrically operated valves, the scheme of the first production line now being assembled in the USSR for rotational molding with dosage and pelleting of the molding material, heating by high-frequency current, molding and mechanical treatment; a new scheme for the production of "Volochnit"; for the production of molding powder by continuous milling of the mixture in a thin layer; a modernized

Card 1/3

Plastics at the Exposition of Achievements
of the USSR National Economy

S/191/60/000/006/001/015
B004/B054

machine for impregnating fabrics with automatic change of the fabric feed depending on the temperature, and two-sided application of the resin; further, a fully automatic boiler plant. Exhibits in the general showroom are: high- and low-pressure polypropylene and -polyethylene, and their products; the new polymers polyformaldehyde, polycarbonate, pentene; polyethylene terephthalate and films made from it; foam polyurethane in various colors. Production by means of vacuum forming and pneumatic forming, as well as forming from concrete, are demonstrated. For the first time on show are organic mineral concretes on the basis of cold-setting furfurol acetone resin, the molding material AP-4 (AG-4) for building constructions, steel tubes lined with Viniplast and organic glass, polyamide water taps, and single-crystal scintillators. Other exhibits are block polystyrene in various colors and in bands ("Stirofleks") and threads for insulating electric cables, further the casting material MCH (MSN) and impact-resistant polystyrene in sheets. Further objects are Viniplast, Faolite, Textolite, glass Textolite with polyester resin, polyamides, epoxy resins and compounds, resin-bonded fiber boards, heat-conducting ATM-1 (ATM-1) molded material resistant to

Card 2/3

Plastics at the Exposition of Achievements
of the USSR National Economy

S/191/60/000/006/001/015
B004/B054

aggressive agents, and plasticized polyvinyl chloride (Plastikat).
Numerous diagrams show the development of production.



Card 3/3

TATEVOS'YAN, Georgiy Ovanesovich; KUZNETSOVA, I.B., nauchnyy red.;
BONDAROVSKAYA, G.V., red.; KOZLOVSKAYA, M.D., tekhn. red.;
PERSON, M.N., tekhn. red.

[Presser of plastics] Presscvshchik plastmass. Moskva, Vses.
uchebno-pedagog. izd-vo Proftekhizdat, 1961. 318 p.
(MIRA 15:4)

(Plastics--Molding)

S/191/61/000/001/014/015
B101/B205

AUTHOR: Tatevosyan, G. O.

TITLE: At the Exposition of the Achievements of the Soviet National Economy. Plastics - substitutes for non-ferrous metals

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 74-76

TEXT: A number of plastics, intended to replace non-ferrous metals, were on show at the Vystavka dostizheniy narodnogo khozyaystva SSSR (Exposition of the Achievements of the Soviet National Economy), including 1) Viniplast products: a welded adsorption column with pipe connections; a ventilator with a capacity of 8240m³/hr, which is highly resistant to aggressive gases; centrifugal pumps for aggressive liquids; tubes of different diameters; accumulator vessels and steel pipes lined with Viniplast; cable insulators made of plasticized Viniplast (plasticizers: dibutyl phthalate, tricresyl phosphate, etc.). 2) High- and low-pressure polyethylene. The following types of high-pressure polyethylene are mentioned: ПЭ-500 (PE-500), ПЭ-450 (PE-450), ПЭ-300 (PE-300), and ПЭ-150 (PE-150) (the numbers denote the elongation expressed in %). Other exhibits were hoses. ✓

Card 1/2

At the Exposition of the...

S/191/61/000/001/014/015
B101/B205

tubes up to 6 m long, tanks for aggressive liquids, and films 0.2-0.035 mm thick. The lining of chemical apparatus with polyethylene is mentioned. 3) Faolite, a product from phenol formaldehyde resin with fibrous asbestos as filler (graphite is added to several products), is resistant to concentrated and dilute inorganic and organic acids, chlorine, gaseous HCl, chlorohydrocarbons, and mineral oils. It is not able to withstand nitric acid, chromic acid, iodine, bromine, aniline oil, pyridine, alkalis, and alcohol. Tubes, valves, stopcocks, tanks for electrolysis and etching, sorption columns, centrifugal pumps, and a bubbling hood 3000 mm in diameter were on show. 4) Laminated plastics of the types textolite, Getinaks, and ДСП (DSP) (a kind of hardwood) are made from phenyl-formaldehyde resins, using paper, cotton, or wood fiber as fillers. Textolite and Getinaks boards, as well as textolite linings and pinions were shown. Linings are also made of DSP. There are 4 figures.

Card 2/2

S/191/61/000/002/012/012
B124/B204

AUTHOR: Tatevos'yan, G. O.

TITLE: On the exhibition of the achievements of political economy
in the USSR. Plastics in the place of nonferrous metals

PERIODICAL: Plasticheskiye massy, no. 2, 1961, 76-79

TEXT: Industry in the USSR manufactures the following structural polyamide plastics: Nylon-type П-68 (P-68), П-6 (P-6), АК-7 (AK-7), and polycaprolactam. All these polyamides display high strength, high resistance to wear, low coefficient of friction, good adhesion on metals, weldability, and resistance to many organic solvents, but they also display a certain degree of water absorption. Due to their low coefficient of friction they are used instead of bronze in the production of casings and linings for bearings. A higher heat conductivity may be attained by addition of powdered copper, graphite, and other heat conducting substances (10-15%). Blades of centrifugal pumps for corrosive liquids etc. are produced from polyamide resins by casting under pressure. Polyurethane resin ПУ-1 (PU-1) ✓

Card 1/3

On the exhibition of the...

S/191/61/000/002/012/012 ✓
B124/B204

is distinguished by its high resistance to diluted mineral acids, dilute and concentrated organic acids, lyes, hydrocarbons, aldehydes, ketones, fats, mineral and organic oils, and to moisture at 100-110°C. ATM-1 (ATM-1)-type antegmite is a chemically stable heat conductive plastic on a phenol-formaldehyde base with graphite filler. This plastic is also electrically conductive, antifrictional, and self-lubricating. Therefore it is chiefly used for the production to devices and pipings operating at low pressure. It may be pressed in hot pressmolds without any additional impregnation or thermal treatment. Moreover, it serves the production of heat exchangers that are resistant to corrosive media, for stopcocks, centrifugal pumps, and as lining in chemical device. Its linear thermal expansion coefficient is similar to that of steel. Because of its anti-frictional properties it is used in the production of casings and inserts of bearings which need not be lubricated. It is manufactured in the shape of pressed powder, lining slabs, and tubes. The pressed materials FAG are prepared on the basis of phenol formaldehyde resins with graphite filler; they are distinct by an enhanced impact strength and a somewhat

Card 2/3

On the exhibition of the...

S/191/61/000/002/012/012
B124/B204

higher heat resistance; the products may be cold-pressed and then hardened by introduction of a hardener. Phenol formaldehyde resins modified either by polyvinyl chloride (forming plastics known as "Phenolites" and "Decorrosites") or by natural rubbers, which leads to ФКП(FKP)-type products. The pressed powders of the first type are known as Phenolite (1,2,3,4,5, ПТ(RT), РСТ(RST)), Decorrosite, and Antifrik. The introduction of PVC reduces water absorption, increases resistance to water and acids, and slightly improves the physical and mechanical and the dielectric characteristic numbers. Introduction of natural rubber strongly reduces the water absorption by phenol formaldehyde resins, increases the resistance to water of the latter, and improves their physical and mechanical characteristic numbers considerably. The following impact- and vibration-resistant types exist: ФКП-1 (FKP-1), ФКП-2 (FKP-2), ФКПМ-10 (FKPM-10), ФКПМ-15 (FKPM-15) and ФКПМ-15Т (FKPM-15T). There are 4 figures. ✓

Card 3/3

TATEVOS'YAN, G.O.

Exhibition-review of consumer goods made of plastics. Plast. massy
no.3:1-2 '61. (MIRA 14:3)

(Plastics--Exhibitions)

TATEVOS'YAN, -G.O.

Automatic rotor line for the compression molding of plastic
goods. Plast.massy no.3:79 '61.

(Plastics—Molding) (Automatic control) (MIRA 14:3)

22335

IS-8500

2409, 1372, 2209

S/191/61/000/005/003/003
B124/B218

AUTHOR: Tatevos'yan, G. O.

TITLE: Exposition of the Achievements of the USSR Economy

PERIODICAL: Plasticheskiye massy, no. 5, 1961, 72-75

TEXT: In the pavillon of the chemical industry of the above-mentioned exposition, fluorocarbon resins of the types Φ -4 (F-4) and Φ -3 (F-3) as well as many other new plastics of Soviet industry are shown. Poly-tetrafluoroethylene (ftoreplast-4) has a $\tan \delta$ of 0.0002 and a dielectric constant of 2. During its use, temperature should not exceed 250°C. At 320°C, the material becomes transparent and plastic. Thermal decomposition starts at 450°C. At a stress of 30 - 50 kg/cm², a distinct residual deformation occurs, and at pressures of 200 - 250 kg/cm² the material goes over to the range of normal flow. The chemical and physico-mechanical properties of the material are specified, and cold pelleting of the powdery polymer at 300 - 350 kg/cm² and the fillers used for the purpose (mica, quartz powder, and asbestos fiber) are discussed. Products made of

Card 1/43

22335

Exposition of the Achievements...

S/191/61/000/005/003/003
B124/B218

Teflon possess high resistance to heat, high chemical stability, and high dielectric constants. This is illustrated by a description of the manufacturing process of a siphon and its use in a siphon-sealed pump. The siphon is a folded chamber which is used as a pipe for hermetic connections of interchangeable machine parts, as a feed pipe for controlled mechanisms (valves and flaps), and as a sensitive elastic element in measuring instruments (pressure gauges etc.). The siphon must be made in a special mold, using an armature of metal and gypsum (Fig. 3). The main components of the mold are internal cylinder 4 and outer clamps 5. Ring-shaped polymer tablets are placed between them on external (2) and internal insert rings (3). The mold is compressed by screw clamps 6. The external metal or gypsum insert rings can be dismantled, while the internal insert rings are fixed. They are made of a low-melting alloy or gypsum. After the sintering of the tablets, the mold is opened, and the external and internal inserts are removed from the finished siphon 1; gypsum is removed by hot water, and the low-melting alloy with the help of a high-frequency generator. The siphon pump is used for pumping aggressive liquids. The piston function is performed by the siphon. Polymonochlorotrifluoroethylene (ftoroplast-3) differs from ftoroplast-4 by greater hardness and absence of cold flow.

Card 2/43

22335

Exposition of the Achievements...

S/191/61/000/005/003/003
B124/B218

Its dielectric properties, however, are worse, and its heat resistance is lower. It can be obtained by compression molding at about 220°C and 250 - 500 kg/cm². It is also suited for pressure casting and punching. Glass fibers, asbestos, graphite, quartz powder, etc. are used as mineral fillers. Molded silicon plastics KMK-218 (KMK-218) (with asbestos or quartz-powder filler), KMK-218-A (KMK-218-1) (with long-fiber asbestos filler), KMC-9 (KMS-9) (with glass-fiber filler), and KMK-9 (KPKZh-9) (with asbestos and other additions) were shown. Other exhibits were: molding powder OFM-6 (OFP-6) (on the basis of phenol oxazolidine resins) and OFPM-296 (OFPM-296) (on the basis of novolak 18 modified by oxazolidine derivatives with addition of powdery fillers). These phenol oxazolidine molding powders differ from phenol formaldehyde molding powders by higher plasticity on processing and greater stability of their dielectric properties under long-time action of humidity and temperature. They were developed by K. D. Petrov, Doctor of Technical Sciences, and his co-workers at the Nauchno-issledovatel'skiy institut plastmass (Scientific Research Institute of Plastics). There are 5 figures.

Card 3/43

ANTONOV, S.N.; TATEVOS'YAN, G.O.

Automatic programmed regulator of the rate of the electric heating
of instruments and apparatus. Plastmassy no.6:46-47 '61.

(Electric heating) (Temperature regulators) (MIRA 14:5)

S/191/61/000/008/006/006
B110/B201

AUTHOR: Tatevos'yan, G. O.

TITLE: Exposition of achievements of the USSR national economy

PERIODICAL: Plasticheskiye massy, no. 8, 1961. 69 - 75

TEXT: The plastics used in machine construction are required to have low specific gravity, a change of which is possible, good physicomechanical, thermal and sound-insulating, friction and antifriction, adhesion and sealing properties; in addition, they are required to be chemically stable as well as able to absorb vibrations. The liquid epoxy resins ЭД-5(ED-5) and ЭД-6(ED-6), as well as compounds of different trade-marks were on exhibit at the exposition. ED-5 is a bright-brown liquid, specific gravity 1.2 - 1.3, epoxy group content $\gg 20\%$, volatile fractions $\leq 2.5\%$, viscosity at 40°C (Hoeppler) $\leq 4,500$ cp, neutral reaction. Its curing at 120°C with 10% hexamethylene cyanamine content ≤ 10 min. ED-6 is a liquid with epoxy group content = 16%, volatile fractions $\leq 1\%$, molecular weight 460 - 540. Both resist for a long time without changes in viscosity. As hardening agents serve: a) polyethylene polyamine, hexaethylene diamine at room

Card 1/7

Exposition of achievements of ...

S/191/61/000/008/006/006
B110/B201

temperature (15 - 20°C); b) at 120 - 150°C: maleic anhydride, phthalic anhydride, dicyano diamine. ЭК-5(EZh-5) compound, used in machine construction for removing castings faults, consists of ED-5 and iron dust as a filler. БФ(BF) are alcoholic solutions of Resol-phenol-formaldehyde resins substituted with polyvinyl butyral. БФ-2(BF-2) and БФ-4(BF-4) are used for glueing various metals, glass, plastics, leather. The adhesive power of duralumin to duralumin is at room temperature $\geq 100 \text{ kg/cm}^2$, at 60°C $\geq 60 \text{ kg/cm}^2$, at 60°C $\geq 60 \text{ kg/cm}^2$. БФ-3(BF-3) and БФ-5(BF-5) are used for glueing glass, glass fibers, and glass textolites. Adhesiveness to tissue $\geq 40 \text{ kg/cm}^2$. BF-6 is used for repairing filter cloths, bags, and clothing. Apart from these BF glues requiring warm curing, there are the following cold-setting glues: ФР-12(FR-12), ПФЭ-2/10(PFE2/10), and ПУ-2(PU-2). FR-12 is an alcoholic solution of synthetic resin with softener. Shear strength of wood glueing $\geq 130 \text{ kg/cm}^2$. PFE 2/10 is a 25 - 27 % aqueous alcoholic solution of methyl polyamide resin PFE 2/10. Its joint is resistant to hydrocarbons, diluted organic acids and bases, and is elastic between -25°C and 200°C. The adhesive film has a breaking strength of

Card 2/7

Exposition of achievements of ...

S/191/61/000/008/006/006
B110/B201

150 - 200 kg/cm² and a rupture elongation between 350 and 450 %. ПУ-2 (PU-2) is a 70 % solution of anhydrous PU-2 resin in anhydrous ethyl acetate. Its glueing is resistant to a protracted action of cold and warm water and may take place at room temperature and higher temperatures. On exhibit at the exposition stand "Chemical Industry" was the manufacturing technology of continuous and staple glass fibers, insulation of electric lines by means of glass fibers, glass tissue, fabric, and color combinations. The manufacture of continuous glass fibers is illustrated. The mass flows from feeders in a continuous jet, is cut to drops by blades and processes to glass beads of alkali-free aluminum borosilicate or calcium-sodium composition, melted in the electric furnace, and extruded to fibers by means of spinnerets. The fibers are coated with a paraffin emulsion, and the primary fiber (consisting of 100 - 200 individual fibers) is wound around a bobbin. The following glass fibers are used by the plastics industry: Ropes made of beams of continuous plait as a filler. Twined thread for weaving with 22 - 16 textures. Diameter of individual fibers: $6 \pm 1 \mu$, breaking strength: 500 - 4,800 g, twisting per m: 100 ± 10 ; 150 ± 15 ; 200 ± 20 ; oil content ≤ 3.0 %. It serves for glass tissue, glass band manufacture, etc. Glass textolites are manufactured with glass

Card 3/7

Exposition of achievements of ...

S/191/61/000/008/006/006
B110/B201

tissues of trade-marks $AC(AS): T_1(T_1), T_2(T_2), ACTT(\sigma)-8, (ASTT (b)-8);$
 $ACTT(\sigma)-9 (ASTT (b)-9); ACTT(\sigma)-C_1(ASTT (b)-S_1)$ (satin); $ACTT(\sigma)-C-2$
 (ASTT (b) S-2) with the square-meter weights: 105, 285, 285, 425, 320, and
 400 g. Their thread count per cm 12 - 38 m on the warp, and 7 - 18 on the
 weft. The breaking load of a 25 by 100 mm large strip is, on the warp,
 35 - 250 kg, and, on the weft, 35 - 150 kg. Oil content $\leq 2.5\%$. The
 following fabric nets serve for manufacturing glass textolites for electrical
 insulation: $CCT\sigma-6(SSTE-6)$ and $CCT\sigma-9(SSTE-9)$. The square-meter weight
 is 190 - 240 g, thread count per cm: on the warp = 10, on the weft = 9,
 breaking load of a 25 by 100 mm large strip on the warp ≥ 110 kg, on the
 weft ≥ 100 kg, oil content $\leq 2.6\%$. The glass fabric nets intended for
 radiotechnical glass textolites: $PC_1-1(RS_1-1); PC_1-2(RS_1-2); PC_1-3(RS_1-3)$
 $PC_2-1(RS_2-1); PC_2-2(RS_2-2); PC_2-3(RS_2-3)$ have square-meter weights of:
 250, 220, 180, 150, 130, 120 g. Thread count per cm on the warp: 4 - 7, on
 the weft: 5 - 7, breaking load of a 25 by 100 mm large strip on the warp:
 50 - 100 kg, on the weft: 11 - 60 kg, oil content $\geq 2\%$. In addition to
 glass mats made of 16 - 50 mm long fibers and binding agents, the following
 Card 4/7

Exposition of achievements of ...

S/191/61/000/008/006/006
B110/B201

synthetics suited for the manufacture of plastics with glass fiber fillers were on exhibit: cold setting, liquid epoxy resins ED-5 and ED-6, polyester resin ПН-1(PN-1) with НК(NK) accelerator (8 % cobalt naphthenate solution in styrene) for its cold setting, substituted epoxy-organosilicon resins, unsaturated polyester resins, lacquer ФЛ-1(FL-1); glue BF-2 phenolformaldehyde resins modified with polyvinyl acetate. Liquid resin is sucked through the glass fiber filler placed in a form. It is molded by means of vacuum pockets, higher pressure, and a rubber bag, or small glass fiber-, resin-, and hardener pieces are blown in. Washing basins and kitchen sinks, tanks, the panel of МАЗ-500(MAZ-500), and bus seats of glass textolite, as well as a blowing device for large structural and machine parts were also on exhibit. The blowing device is fastened to a rotary suspension by a rope; it features two handles and a glass fiber cutter. The capacity is

23 - 13 m²/hr for a thickness of 1.5 - 3 mm, a resin consumption of 24 - 60 kg/hr, and a glass fiber consumption by feeding a thread = 34 kg/hr, length of cut fiber: 20, 40, and 60 mm. The dimensions of the system in working position without apparatus are: 2,750 by 800 by 2,350 mm; those of the apparatus are 430 by 300 by 240 mm; their weight (without apparatus) is: 236.8 kg. The body of a mine truck, consisting of thread positions in Card 5/7

Exposition of achievements of ...

S/191/61/000/008/006/006
B110/B201

various directions and of polyester resin, weighs only 76 kg (metallic: 190 kg), and its service life is 1.5 times longer. The system $\Upsilon T-1$ (UT-1) of the Khar'kovskiy gornyy institut (Khar'kov Mining Institute) serves for the continuous manufacture of 80 and 100 mm polyester pipes and glass cords. The pipes are linked by tapered couplings and contain 55 - 60 vol % glass fibers. The tensile strength is longitudinally 2,000 kg/cm², transversally 4,000 kg/cm². A 100-mm pipe with a 4.3-mm wall thickness withstands 200 At hydrostatic pressure and 100 At gas pressure in 24 hr. Exhibits included: glass textolites for electrical insulation and construction, initial glass fibers, and variegated glass slates roofing and paneling. Its specific gravity is 1.6 - 2.2 g/cm³, bending strength 700 - 2.400 kg/cm², water absorption 0.3 %, resistance to cold -60°C, heat resistance 80°C. A graph illustrated its manufacture by means of an $\Phi C \Pi$ (FSP) unit. Electrotechnical and $A \Gamma-4$ (AG-4) structural parts are hydraulically pressed. [Abstracter's note: The seven photographs are not reproducible.] There are 8 figures.

Card 6/7

TATEVOS'YAN, G. O.

Uses of fiber glass in the plastics industry. Plast.massy no.8:
71-75 '61. (MIRA 14:7)

(Glass fibers)

TATEVOS'YAN, G.O.

Plastics at the Soviet Industrial Exhibition in London. Plast.massy
no.9:72-74 '61. (MIRA 15:1)
(London--Exhibitions) (Plastics)

TATEVOS'YAN, G.O.

Plastics at the British Industry and Trade Exhibition in Moscow.
Plast.massy no.9:74-77 '61. (MIRA 15:1)
(Great Britain--Plastics) (Moscow--Exhibitions)

TATEVOS'YAN, G.O.

Exhibition of Achievements of the National Economy of the U.S.S.R.
Styrene polymers and copolymers. Plast.massy no.10:72-74 '61.

(MIRA 15:1)

(Styrene polymers--Exhibitions)

ANTONOV, S.N.; TATEVCS'YAN, G.O.

Circuit diagram of a setup for determining specific volumetric and surface electric resistances. Plast.massy no.11:55-57 '61.
(MIRA 14:10)

(Electric measurements)

TATEVOS'YAN, G.O.

Ion exchange resins. Plast.massy no.11:67-69 '61. (MIRA 14:10)
(Ion exchange) (Resins, Synthetic)

TATEVOS'YAN, G.O.

Exhibition "Plastics in the United States." Plast.massy no.11:69-
71 '61. (MIRA 14:10)

(Moscow--Exhibitions)
(United States--Plastics industry)

TATEVOS'YAN, G.O.; KUZNETSOVA, I.B.

Determining the photostability of colors of plastics. Plast.massy
no.12:54-57 '61. (MIRA 14:12)
(Dyes and dying--Plastics)

TATEVOS'YAN, G.O.

Plastics and equipment for their processing at the French National
Exhibition in Moscow. Plast.massy no.12:66-70 '61.

(MIRA 14:12)

(Moscow--Exhibitions)

(France--Plastics)

POLYAKOVA, V.I.; KUZNETSOVA, I.B.; TATEVOS'YAN, G.O., nauchnyy red.;
TISHCHENKO, N.I., red.; TRUSOV, N.S., tekhn. red.

[Manufacture of toys from plastics]Proizvodstvo igrushek iz
plasticheskikh mass. Leningrad, Gosmestpromizdat, 1962. 318 p.
(MIRA 16:2)

(Plastics) (Toys)

TATEVOS'YAN, G.

Exhibition of Achievements of the National Economy of the
U.S.S.R. Polyorganosiloxane fluids. Plast.massy no.2:77-80 '62.
(MIRA 15:2)
(Silicon organic compounds) (Polymers--Exhibitions)

34945
S/191/62/000/003/001/010
B101/B147

15. P000

AUTHOR: Gatevqs'yan, G. O.

TITLE: Exposition of Achievements of USSR National Economy,
Scientific papers on polymer materials

PERIODICAL: Plasticheskiye massy, no. 3, 1962, 1-2

TEXT: Investigation results on polymer materials obtained by institutes of the AS USSR and the Nauchno-issledovatel'skiy institut plasticheskikh mass Goskomiteta po khimii Soveta Ministrov SSSR (Scientific Research Institute of Plastics of the State Committee on Chemistry of the Council of Ministers USSR) (NIIPM) are exhibited in the pavilions of the AS USSR and the chemical industry of the Vystavka dostizheniy narodnogo khozyaystva SSSR (Exposition of Achievements of USSR National Economy). New polymers shown are polyarylates (PA) obtained from bivalent phenols and dicarboxylic acids. PA may be worked into films and fibers. The films show good strength, high dielectric characteristics, and high heat resistance (300°C and more). Two procedures for producing PA (80-90% yield) were developed at the laboratoriya vysokomolekulyarnykh soyedineniy

Card 1/4

Exposition of Achievements ...

S/191/62/OCC/003/001/010
B101/B147

Instituta elementoorganicheskikh soyedineniy AN SSSR (Laboratory of High-molecular Compounds of the Institute of Elemental Organic Compounds AS USSR) (a) polycondensation of dicarboxylic chlorides with bivalent phenols at 100-240°C in high-boiling solvent and N₂ stream; (b) polycondensation at the organic solvent - H₂O interface. The reaction takes only minutes. Systematic investigations of organosilicon-tin and organotin compounds are conducted at the laboratoriya vinilovykh soyedineniy Instituta organicheskoy khimii AN SSSR (Laboratory of Vinyl Compounds of the Institute of Organic Chemistry AS USSR). Organotin compounds can be used as stabilizers for polyvinyl chloride, insecticides, and mildew protectives. Procedures for producing polymers and copolymers from trialkyl stannyl methacrylate and dialkyl stannylene dimethacrylate were developed at the IOKh AN SSSR and NIIPM GKKh SM SSSR. Triethyl stannyl methacrylate with methyl methacrylate (ratio 1:1) gives a copolymer with a softening point of 180-200°C and a mechanical strength equal to that of usual organic glass. It is stable to H₂O and acetic acid, and screens off X-rays. Dibutyl stannylene dimethacrylate + methyl methacrylate has a softening point > 200°C. Both copolymers can be pressed into transparent products. Reactions between silicon compounds and compounds containing Al, Ti, B, Sn,

Card 2/4

Exposition of Achievements ...

S/191/62/000/003/001/010
B101/B147

etc. are studied at the Institute of Elemental Organic Compounds AS USSR. Synthesis methods were developed for compounds of the type $(-Si-O-X-O-)_n$, where $X = Al, Ti, B, Cr, Ni$. The structure of these compounds is similar to that of silicates. Polymers with structures of $Al-O-Al, Ti-O-Ti$, were also synthesized, the free valencies, being saturated with $(CH_3)_3Si-O-$ groups. Plastics, enamels, and varnishes stable from -60 to $+550^\circ C$ were obtained. The reaction of glycols or multivalent alcohols with unsaturated monobasic and dibasic acids of the acryl series yielded polyester acrylates (PEA) which were converted quickly and with slight volume changes into infusible and insoluble polymers of steric structure at room temperature or a little above, without formation of volatile by-products. PEA may copolymerize with each other, with all unsaturated monomers, and with most synthetic high-molecular compounds. Depending on the initial substances, glassy or rubberlike polymers are obtained. They show high strength, heat resistance, stability, to dynamic and static loads, good adhesion to fibrous fillers, and high electrical insulating properties. The PEA types $MA\Phi-2$ (MDF-2), $MA\Phi-4$ (MDF-4), and others, were developed at the Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR). They are cheaper than former industrial products. Glass-reinforced plastics on

Card 3/4

Exposition of Achievements ...

S/191/62/000/003/001/010
B101/B147

PEA basis have small weight. Since electroinsulating varnishes made of PEA contain no solvents, impregnating and drying of electrical windings is greatly accelerated. Universal glues were developed on PEA basis. The following procedures were worked out at the Institute of Chemical Physics AS USSR basing on the theory of degenerately ramified chain reactions of the oxidation of low-molecular hydrocarbons by Academician N. N. Semenov, Nobel prize winner: (1) production of formaldehyde by direct oxidation of natural gas methane by means of atmospheric oxygen (IFKh AN SSSR together with VNIIGaza); (2) oxidation of butane to acetic acid and methyl ethyl ketone in liquid phase near the critical temperature. Oxidation proceed almost quantitatively. Compounds of the thiophene series which can be used as vulcanization accelerators and antiaging additives of rubber were synthesized at the Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy AS USSR). Sulfurous petroleum from the Volga region and the Ural, as well as oil shales from the Volga region, can be used as sources for these compounds.

Card 4/4

34948

S/191/62/COO/003/007/C10
B101/B147

15.8500 (also 2209)

AUTHORS: Tatevos'yan, G. O., Kuznetsova, I. B.

TITLE: Problem of weather resistant film materials

PERIODICAL: Plasticheskiye massy, no. 3, 1962, 44.- 51

TEXT: Films made of polyethylene (PE), polyvinyl chloride (PVC) plasticized with a BCΦ (VSF) plasticizer, or PVC type 230 were exposed to atmospheric influences or to the radiation of arc lamps or mercury-quartz lamps. Aging was tested by measuring the tensile strength σ (kE/cm^2) and the relative elongation ϵ (%) at the moment of breaking. For PE, graphs σ versus τ , and ϵ versus τ , where τ = time, were plotted, and aging was assumed to end when ϵ reached 50% (τ_{50}). For PVC, aging was assumed to end with the occurrence of brittle fracture, when bent 180° at room temperature (ГОСТ 5960-51, GOST 5960-51). Results: (1) Under atmospheric influences, aging of PE was 70% faster in Fergana than it was in Moscow (τ_{50} in Moscow 160 days). (2) In the laboratory, aging in arc light yielded comparable results. A conversion factor K = solar radiation

X

Card 1/3

Problem of weather resistant ...

S/191/62/000/003/007/010
B101/B147

hours/laboratory light hours = approximately 3.0 was found. The ratio $\tau_{\text{Moscow, days}}/\tau_{\text{light hrs}}$ was 0.737, $\tau_{\text{Fergana, days}}/\tau_{\text{light hrs}}$ was 0.421. (3) No comparable results were obtained with Hg lamps which cannot be used for age tests since the processes are completely different. (4) A 1.5% addition of carbon black to PE increases its light resistance: without carbon black ϵ dropped from 400 to 50% after 300 hrs, with carbon black it dropped from 533 to 5%. (5) Reinforcement of PE with cotton fabric (percale type A (A)) increased its service life: $\tau_{50} = 600$ hrs. (6) Stabilizer additions to PE showed the following: with 2-hydroxy-4-octyl benzophenone: $\tau_{50} = 252$ in Moscow; with phenol - styrene combination: $\tau_{50} = 338$ in Moscow. (7) In PVC stabilized with lead silicate, brittle fracture occurred after 367 hrs in arc light. (8) Service life was increased to 954 hrs by lead stearate + 3A-5 (ED-5) epoxy resin owing to synergism. (9) Effect of stabilizers: PVC 230 had $\tau_{100} = 1727.5$ hrs without stabilizer. Addition of diphenylol propane or 1,1-bis-(4-hydroxy-phenyl)-cyclohexane gave $\tau_{100} = 2162$. 2,2'-4,4'-tetra-

Card 2/3

Problem of weather resistant ...

S/191/62/000/003/007/010
B101/B147

hydroxy sebacephenone ($\tau_{100} = 2350$ hrs), 2,2'-4,4'-tetrahydroxy
adipophenone ($\tau_{100} = 2459$ hrs), and 2,2-bis-(3-methyl-4-hydroxy-phenyl)
propane ($\tau_{100} = 2715$ hrs) had the best effects. Z. V. Popova, Ye. N.
Matveyeva, and A. S. Danyushevskiy prepared the specimens. There are
8 figures, 3 tables, and 5 Soviet references.

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Card 3/3

S/191/62/000/004/001/017
B110/B138

AUTHORS: Igonin, L. A., Ratner, S. B., Tatevos'yan, G. O.

TITLE: Improved methods of testing plastics

PERIODICAL: Plasticheskiye massy, no. 4, 1962, 1-2

TEXT: With the aim of standardizing methods of testing plastics, the pervoye mezhdovedomstvennoye rabocheye soveshchaniye po metodam ispytaniy plastmass (First Interdepartmental Working Conference on Methods of Testing Plastics) was held in Moscow in 1961 with 480 representatives from 179 organizations. V. A. Kargin, G. M. Bartenev, L. A. Igonin, Yu. M. Malinskiy, D. F. Kagan, S. A. Reytlinger, and A. D. Sokolov reported on the current situation. Then the following were discussed: (a) mechanical properties, (b) technological properties, (c) aging and chemical stability, (d) physical and chemical properties, (e) dielectric properties, (f) chemical and analytical methods, (g) technical requirements. Seven permanent working groups have been formed to study (a); four of them are on the standardization of mechanical tests (static, dynamic properties, friction and wear, heat and frost resistance), and

Card 1/4

Improved methods of testing...

S/191/62/000/004/001/017
B110/B138

three of them on the mechanical properties of foam and porous plastics, glued joints and microspecimens. Three permanent groups are studying (b); methods of testing thermoreactive materials, rheological characteristics of thermoplastics, and thermophysical properties. Three temporary groups are studying (c); chemical, thermal, optical, atmospheric, and biological stability, and migration of plasticizers. Temporary groups are studying (d); molecular weight determination, viscosity of solutions, gas and moisture permeability of films, etc. Permanent groups are studying (e). Temporary groups are studying (f); spectral analysis, analysis of aldehydes in mixed polyvinyl acetals, electrometric determination of monomers in polymers and copolymers, determination of Cl in organo-siloxanes, etc. One group is studying (g); technical requirements for resol and novolak resins, powder bakelite, phenol formaldehyde plastics, laminated plastics, aminoplasts, PVC, polystyrene and its copolymers, polyethylene, production and conditioning of samples. A permanent working commission for methods of testing plastics which is to be established within the Sovet po sinteticheskim materialam na osnove vysokomolekulyarnykh soyedineniy pri Goskomitete Soveta Ministrov SSSR po koordinatsii nauchno-issledovatel'skikh rabot (Council for Synthetic Materials Based on

Card 2/4

Improved methods of testing...

S/191/62/000/004/001/017
B110/B138

High-molecular Compounds at the Goskomitet of the Council of Ministers USSR for the Coordination of Scientific Research) will: (1) exchange experience on test methods, (2) coordinate scientific work, (3) standardize tests, (4) recommend testing apparatus for series production, (5) check proposals made by the *WCO* (TK-61) (ISO(TK-61)). It will consist of the following working groups: RG-1 - terminology and definitions, RG-2 - mechanical properties, RG-3/7 production and standardization of specimens, RG-4 for technological and thermal properties, RG-5a for physical and chemical properties, RG-5b for analytical methods, RG-6 for aging and chemical stability, RG-8 for dielectric properties, RG-9 for technical requirements, RG-10 for cellular materials. Standardization will provide for: (1) production processes, (2) good design of plants for processing, (3) reliable quality guides for industrial production, (4) engineering characteristics, (5) appropriate research for developing new materials. The *Romissiya po mekhanike polimerov Goskhimkomiteta* (the Goskhimkomitet Commission for Polymer Mechanics) has worked out five complex mechanical and technological characteristics for some polymers. State standards are to be published in the near future. Two interdepartmental commissions will be established for testing plastic

Card 3/4

Improved methods of testing...

S/191/62/000/004/001/017
B110/B138

tubes and polymer films. The production of apparatus and the training of laboratory staff will be intensified.

40
45
50

Card 4/4

S/191/62/000/005/002/012
B110/B101

AUTHORS: Popova, Z. V., Yanovskiy, D. M., Tatevos'yan, G. O.,
Shtekker, O. A.

TITLE: The effect of polyvinyl chloride decomposition inhibitors
on the decomposition kinetics and light-fastness of poly-
vinyl chloride plasticate

PERIODICAL: Plasticheskiye massy, no. 5, 1962, 3-6

TEXT: Attempts were made to increase the stability of PVC by adding the following inhibitors which do not bind HCl: (1) phenols, (2) aromatic hydroxy ketones, (3) products of the autocondensation of cyclohexanone, and (4) esters of benzoic and salicylic acid. The following substances were investigated: 2,4-dihydroxy benzophenone (I), 2-hydroxy-4-methoxy benzophenone (II), diphenylol propane (III), 2,2-bis-(3-methyl-4-hydroxy-phenyl)-propane (IV), 1,1-bis-(4-hydroxy phenyl)-cyclohexane (V), 2,2',4,4'-tetrahydroxy adipyl phenone (VI), 2,2',4,4'-tetrahydroxy sebacyl phenone (VII), dodecahydrotriphenylene (VIII), the product from the autocondensation of three molecules cyclohexanone (IX), the product from the autoconden-

Card 1/3

The effect of polyvinyl chloride ...

S/191/62/000/005/002/012
B110/B101

sation of six-molecules cyclohexanone (X), resorcin dibenzoate (XI), resorcin disalicylate (XII), phenyl salicylate (XIII), and β -naphthoxy propene oxide (XIV). The effect of these substances on the stability of powders and plasticized films was determined: (1) according to the decrease of heat resistance of PVC after ultraviolet irradiation, (2) by comparing the rate of separation of HCl during heating of stabilized and nonstabilized PVC before and after ultraviolet irradiation. A measure of the aging stability was afforded by the length of time elapsing before brittleness appeared in the 180° bending test, as well as by the time of irradiation at which the rupture elongation dropped by 50%. IX, X and XIV delayed dehydrochlorination effectively, VI and VII only slightly: concentrations: IX = 0.064, X = 1.130, XIV = 0.050, VI = 0.082, VII = 0.096 g per 10 g PVC; setting in of decomposition: IX = 150°C, X = 158°C, XIV = 169°C, VI = 154°C, VII = 157°C; separated amount of HCl before irradiation (mg HCl/g PVC): IX = 1.94, X = 1.88, XIV = 1.70, VI = 3.48, VII = 3.57; after irradiation: IX = 4.88, X = 4.87, XIV = 4.75, VI = 5.85, VII = 6.50. For a plasticate containing 12 parts by weight of lead silicate and 0.5 parts by weight of an inhibitor mixture, the best heat resistance and fastness to light was found to occur using cyclohexanone stabilizers VIII, IX and X. In this case it was VI, VII and XIV

Card 2/3

The effect of polyvinyl chloride ...

S/191/62/000/005/002/012
B110/B101

that produced the lowest fastness to light (ПРК-2 (PRK-2) lamps). For aging of plasticates under arc lamp light, III, IV, V, VI and VII gave best results, XI, XII and XIII the poorest. There are 4 tables.



Card 3/3

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S/191/62/000/005/012/012
B110/B101

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AUTHOR: Tatevos'yan, G. O.

TITLE: Exposition of achievements of national economy. New studies in the field of polymeric materials

PERIODICAL: Plasticheskiye massy, no. 5, 1962, 75-78

TEXT: The VNII NEFTEKhim jointly with the Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds AS USSR) and the Nauchno-issledovatel'skiy institut plastmass (Scientific Research Institute for Plastics) developed a new thermoplastic, high-molecular polyether "Pentaplast", of 1.4 g/cm^3 density, by chlorination of pentaerythrite. This polyether has the following properties: static bending strength limit $500-700 \text{ kgf/cm}^2$, specific resilience $35-40 \text{ kgf}\cdot\text{cm/cm}^2$, volume resistivity $4 \cdot 10^{16} \text{ ohm}\cdot\text{cm}$, tangent of the angle of dielectric losses at 10^6 cps $11 \cdot 10^{-3}$, dielectric constant at 10^6 cps 2.8, breakdown voltage 35 kv/mm , heat resistance according to Vicat

Card 1/4

Exposition of achievements of ...

S/191/62/000/005/012/012
B110/B101

160-170°C, water absorption in 24 hrs at 20°C 0.02%. It can be used for precision instruments and corrosion-proof chemical apparatus. It may be cast under pressure at 190-240°C, extruded at 220-240°C and pressed at 170-210°C and 150 kgf/cm². At the NIIPP, methyl methacrylate of the ЛПТ (LPT) brand with 90,000-120,000 molecular weight and heat resistance up to 95°C (Martens), was synthesized. It can be cast at 190-235°C and \geq 1200 kgf/cm², extruded at 170-200°C, and pressed for 5-10 min at 180-200°C and 200-300 kgf/cm². The data are: density 1.18-1.2 g/cm³; specific resilience of pressed samples 12-19 and of cast samples 16-27 kgf·cm/cm², static bending strength limit 1200-1800 kgf/cm², Brinell hardness 17-18 kgf/cm², heat resistance according to Vicat 120-125°C, flow according to Raschig at 200°C and 600 kgf/cm² 30-60 mm/sec. At the Institute of High Molecular Compounds AS USSR, thixotropic gels were synthesized from aqueous solutions of highly viscous polyvinyl alcohol, and of iodine salts. They contain mobile bonds between neighboring chains, which decompose during heating and

Card 2/4

Exposition of achievements of ...

S/191/62/000/005/012/012
B110/B101

are restored at a certain temperature. Their medical importance, especially for curing tuberculosis, was established in collaboration with the Leningradskiy Institut tuberkuloza (Leningrad Institute of Tuberculosis). At the Institut organicheskoy khimii im. N. D. Zelinskogo AN.SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy AS USSR), a universal method for the preparation of vinyl ethers from undiluted acetylene and alcohols in the presence of alkali was developed on the basis of the Favorskiy-Shostakovskiy reaction. On this basis, a continuous process for the preparation of acetaldehyde (92% yield) by hydrolysis of vinyl isoamyl ether was worked out. The Institut goryuchikh iskopayemykh AN SSSR (Institute of Mineral Fuels AS USSR) proposed to perfect the cumene method for the preparation of phenol by catalytic decomposition of the phenol resin formed. The Arkhangel'skiy lesotekhnicheskii institut (Arkhangel'sk Forestry-engineering Institute) together with the NIIPlastmass etc. developed the production of lignin-powder bakelite, 50% of crystalline phenol having been replaced by alkaline lignin sulfate. Lignin as chemical raw material can also be used for producing cheap binding agents for wood fiber materials.

Card 3/4

Exposition of achievements of ...

S/191/62/000/005/012/012
B110/B101

These binding agents are produced by condensation of industrial lignins with aldehydes and phenols in alkaline medium. They adhere well to wood, are completely water-soluble, polymerize well at 150-160°C under formation of water-resistant polymerizates. Fiber board produced from them was pressed at 140°C and 18-20 kgf/cm² with 10% resin. Plates pressed at 150-160°C had a static bending strength limit of 250 kgf/cm².

Water absorption did not increase above 70 g/in³ after 24 hrs, swelling was 6.5%. The new lignin resins cost only 1/6 as much as those made from crystalline phenol, 1/4 to 1/3 times as much as the carbamide resin Mφ-17 (MF-17). There are 2 figures and 2 tables.

X

Card 4/4

TATEVOS'YAN, G.O.

Plastics at the Czechoslovak Exhibition of the Industrialization
of Finishing Operations. Plast.massy no.6:74-76 '62.

(MIRA 15:6)

(Czechslovakia--Building--Details) (Moscow--Exhibitions)

TATEVOS'YAN, G.O.

New displays and stands at the Exhibition of Achievements of
the National Economy of the U.S.S.R. Plast.massy no.7:1-2
'62. (MIRA 15:7)
(Plastics--Exhibitions)

S/191/62/000/007/011/011
B124/B144

AUTHOR: Tatevos'yan, G. O.

TITLE: Exposition of the Achievements of USSR National Economy.
Instruments and apparatus for testing polymers

PERIODICAL: Plasticheskiye massy, no. 7, 1962, 71-74

TEXT: (1) Apparatus ЭДП-2 (EFP-2) for preparative electrophoretic isolation of proteins, amino and nucleic acids, various inorganic compounds, etc., developed by the SKB BFEM Mosgorsovnarkhoza (SKB BFEM of the Mosgorsovnarkhoz). (2) Paper electrophoresis apparatus for isolation and subsequent determination of proteins and other high-molecular compounds, developed by the SKB BFEM of the Mosgorsovnarkhoz. This is suited for the simultaneous determination of five preparations on paper tape 40 mm wide and 400 mm long. Using a densitograph with integrator and analysis takes 3-5 min. (3) Ultrasonic viscosimeter ВНА-61 (VND-61) developed by the NIIPM for continuously measuring the viscosity of liquid and dissolved polymers, impregnating masses, molten asphalts, varnishes, glues, lubricants, liquid fuels, petroleum products, etc. The instrument consists

Card 1/2 ✓

Exposition of the Achievements ...

S/191/62/000/007/011/011
B124/B144

of an immersion pickup (diameter 14 mm), an electronic block, and a junction cable. The error of measurement is 5%, the working temperature up to 200°C. (4) Recording device for testing internal stresses and adhesion properties of plastic coats, developed by the Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry AS USSR). The stresses which cause a detachment of the film from the support are taken as a measure of adhesion. The measuring principle is based on photoelasticity. (5) Universal instrument VIT-1 (UP-1) for measuring the polymerization rate, developed at the Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR) for liquid monomers and oligomers (irrespective of the structure of the resulting polymers) on the basis of the polymerization heat measured by calorimetry (10-25 kcal/mole). The instrument uses two types of measuring cells one of which works with less delay, the other with greater delay but easier handling. There are 4 figures. ✓

Card 2/2

S/191/62/000/008/013/013
B124/B180

AUTHOR: Tatevos'yan, G. O.

TITLE: Exhibition of Achievements of the USSR National Economy.
Instrumentation

PERIODICAL: Plastiĥeskiyemassy, no. 8, 1962, 76-78

TEXT: The following exhibits in the "Mashinostroyeniye" ("Machine Building") Pavilion are described in detail: (1) Devices for the central automatic control of operation parameters for the chemical, petroleum-refining, rubber, etc. industries, Зенит-1 (Zenit-1) and Зенит-2 (Zenit-2); (2) electronic level indicator ЭСУ-1 (ESU-1); (3) radioactive analyzer РАЖ-1 (RAZh-1) for indicating and recording the concentration and their densities of one or both components in binary liquid mixtures, and (4) СГГ-2 (SGG-2) for indicating combustible gases in the air. ✓

Card 1/1

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B101/B144

AUTHORS: Antropova, N. I., Kuznetsova, I. B., Tatevos'yan, G. O.,
Sharova, A. V.

TITLE: Surface treatment of the ПК-4 (PK-4) film with stabilizing
substances

PERIODICAL: Plasticheskiye massy, no. 9, 1962, 61 - 64

TEXT: In order to stabilize the PK-4 polycapromide film used in
agriculture it was treated with potassium iodide, manganese chloride,
copper sulfate, potassium bichromate, β -naphthol, benzophenone, resorcinol
disalicylate, resorcinol dibenzoate, formalin, or tannin. The changes in
the tensile strength σ and breaking elongation ϵ were tested after
artificial aging by ultraviolet (Hg lamps) or arc light, or after
natural aging under atmospheric conditions in Moscow or Fergana.
Potassium iodide, β -naphthol, benzophenone, potassium bichromate, and
tannin showed a slight stabilizing effect against ultraviolet irradiation.
The data got by irradiation with arc lamps were better comparable with
those obtained by aging under atmospheric conditions than the data from
Card 1/2

Surface treatment of the...

S/191/62/000/009/C11/012
H101/B144

ultraviolet irradiation. For σ , measured along the nonstabilized film and along the film stabilized by tannin, the following data were obtained respectively: nonirradiated 371, 452 kg/cm^2 , after 50 hr irradiation 393, 677; after 120 hr 500, 630; after 140 hr 316, 366 kg/cm^2 . The durability of films exposed to atmospheric effects was 3 months in Moscow and 2 months in Fergana. Treatment with 1% tannin solution reduced the thermo-oxidative destruction of the film at 200°C to 1/7 as compared with untreated film. Untreated film contained 11.7% products soluble in water, that treated with tannin only 3.3%. Treatment with tannin changes the optical properties of the PK-4 film. The maximum of light absorption, which is 250-310 μm for untreated film, shifts towards 280-400 μm . The useful life of the film is slightly increased by treatment with tannin and this also renders the film more frost-resistant. There are 2 figures and 4 tables. f

Card 2/2