SHTAYERMAN, Yu.Ya.

Precast rectangular convex slabs. Trudy nauch. korr. Inst. stroi. dela AN Gruz. SSR. no.2:47-59 '58.
(MIRA 12:7)

(Elastic plates and shells)

SOV/98-59-8-5/33

15(6)

AUTHOR: Shtayerman, Yu.Ya., Professor, Doctor of Technical Sciences

TITLE: The Vibroactivization of Cement and Vibrotreatment of Concrete

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 8, pp 18-23 (USSR)

ABSTRACT: This process is based on research carried out in 1932 by the TNISGEI (Tiflis Scientific Research Institute of Construction and Hydraulic Power) and published by the TsNIIPS (Central Scientific Research Institute of Industrial Construction), describing the use of fine sand taken from the Khapry quarry for the Temernikstroy. Research conducted by Engineer V.S. Eristov on Eolian sand from the Karakum desert and the results of work by G.A. Prokhorova enabled the problem of the use of fine sand in the manufacture of concrete to be solved. The author stresses the need for the correct amount of water in the process, which speeds up the absorption and dispersion of cement clinker, and the findings of tests conducted by Academician P.A. Rebinder and Doctor of Technical Sciences N.V. Mikhaylov concerning the initial specific surface and durability of vibrotreated cement (Fig.1) are briefly

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The Vibroactivization of Cement and Vibrotreatment of Concrete

described. Table 1 shows the results of tests on various types of fine sand, and a short account is given in the text, it being proved that the frequency of the vibroactivization should be in indirect proportion to the size of the sand. Table 2 illustrates various methods of calculating the frequency as applied to these different sands: Column 4 gives the frequency as calculated by L'Hermite, expressed as $D \frac{14.10^6}{n^2}$, where n is the frequency of vibrations per minute, and D is the maximum size of the additives in cms. Column 5 contains a simpler formula - $N = \frac{50}{d}$, where N is the frequency of the vibration in hertz, and d is the average size of the sand in mm, calculated according to A.I. Yashvili's formula ($d = \frac{11.25}{a_{11} + \frac{a_{10}}{2} + \frac{a_9}{4} + \frac{a_8}{8}}$, where a_{11}, a_{10}, a_9 and a_8 represent

Card 2/4 sand of the following sizes respectively: .05-.15mm, .15-.30mm,

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.30-.60mm, and .60-1.2mm). G.Ya. Kunnos recommends the formula $K = \sqrt{\frac{s}{t}}$, where s is the rigidity of the block in $kg.cm^{-1}$, and t is the mass of the frequency of the given size in kgs per sec^2 cm^{-1}. The author reduces these formulae for the frequency to: 1) $f = \frac{A_1}{D_1^{1/2}}$ (L'Hermite formula); 2) $f = \frac{A_2}{D_2}$ (author's recommendation); 3) $mf = \frac{A_3}{D}$ (Kunnos' formula), where A_1, A_2, and A_3 are the coefficients, D_1 is the size of the grain of the upper gage of the fraction, D_2 is the average size of the grain of the fraction and D_3 is the size of the proposed grain. The need for this process stems from the demand for thin concrete units in industry and, basing his recommendations on research conducted by N.V. Mikhaylov, the author offers the following proposals for the manufacture of such concrete: 1) The pulverization of the sand should be carried out independently of the vibroactivization of the cement;

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2) the frequency should be lowered after the addition of the thickening dust; 3) concrete should be made in a vibromixer, the frequency of vibration depending on the average size of the sand; 4) components should be manufactured on vibrating equipment operating on the same frequency as the vibromixer. A test carried out by the TNISGEI to prove the suitability of this process for the manufacture of erosion-resistant sheet concrete for hydroelectric work is then briefly described and illustrated in fig.2, while table 3 contains data of experiments on various solutions to test their erosive properties. Table 4 gives the findings of vibration tests carried out on a 1:2 solution of Portland cement and cobulet sand. Fig.4 is a diagram of the vibroactivization shop at the Gruzgidroenergostroy ferro-concrete works. There are 4 tables, 2 diagrams, 1 graph, 1 photograph, and 11 references, 10 of which are Soviet and 1 French.

SOV/98-59-10-2/20

8(6), 14(6)

AUTHORS: Shtayerman, Yu. Ya., Doctor of Technical Sciences, Professor, Zodelava, G.L., Candidate of Technical Sciences, and Gavrish, Yu. Ye., Engineer

TITLE: Wear-Resistant Vibroconcrete Sheeting in the Construction of the Tsageri Dam (Head Installation) of the Ladzhanuri GES

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 10, pp 36-40 (USSR)

ABSTRACT: Research carried out by the TNISGEI (Tiflis Scientific Research Institute of Construction and Power Engineering) showed the possibility of replacing stone sheeting used in hrdroelectric construction work by concrete, which should be vibrotreated and contain a minimum amount of binding agent in addition to a filler which is resistant to water erosion. This method was tested in the construction of the Tsageri dam under the observation of TNISGEI specialists. This dam, situated near the village of Orbeli, is part of a scheme linking the Tskhenis-Tskhali and Ladzhanuri rivers by means of a tunnel. The damping-well illustrated in fig. 1, consisting of a 46 x 70 m sheet and a ridge 2 m high and 3.4 m broad, was

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to be covered with a layer of granite; the part near the ridge, however, was divided into sections (Fig.2) and covered instead with a layer of vibroconcrete, as shown in detail in fig.3. The concrete was made up of Sebryakovsky (plasticized, low-temperature) Portland cement, on which 4 tests were carried out by the TsNIPS-2 (Central Scientific Research Institute of Industrial Construction-2) method; the data obtained from these tests is given in the text, and an average activity of 500 kgs/cm^2 was arrived at. The sand was taken from the Black Sea, from the Kelasuri quarry near Sukhumi; the graph of the screening of the sand is shown in fig.4 and the results of a minerological analysis carried out by the Gruzinskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta mineral'nogo syr'ya (Georgian Department of the All-Union Scientific Research Institute of Mineral Raw Materials) are given in the text in detail, showing the high quality of the sand (80% quartz). Crushed gravel from the bed of the Tskhenis-Tskhali river was used as the filler, about 60% of it being chippings, and

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the main specifications are given. Water was added to the cement in the proportion of 22%, and the mixture was subjected to vibro-processing by means of Type I-86 vibrators. The quantities of components used were: cement 325 kgs, water 133 kgs, sand 725 kgs, and filler 1,290 kgs, while the volumetric weight of the freshly made concrete was 2.45-2.50 ton/m^3; settlement, tested by means of an Abrahams cone, amounted to 0-1 cm. Contraction tests were carried out in the central concrete laboratory of the Ladzhanurgesstroy (Ladzhanuri GES Constr.Project) on 20 x 20 x 20 cm test-pieces; average resistance to contraction was 550 kgs/cm^2 over a 28-day period. Figs.5 and 6 illustrate the equipment used for the manufacture of the vibroprocessed concrete, consisting of 750 liter mixer, two I-86 high-frequency vibrators (duration of process 5-6 mins), and a 300 mm pipe down which the processed mixture was poured into a concrete mixer, where the filler and sand were added; the concrete was mixed for 4-5 minutes and then transported by dump truck. The concreting of the blocks in fig.2 was carried

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out in the order 2,6,3,1,5,4,7 in 3 shifts and the surface was then covered with a 5 cm thick layer of water. Flooding of the apron took place 10 days later in order to discharge the flood-flow. The author concludes with the proposal that this system replace the present one as being faster, cheaper and simpler, and suggests that GOST 4799-57 on "Concrete in Hydraulics" be revised to include "Wear-Resistant Concrete in Hydraulics." There are 4 diagrams, 1 graph, 1 table, and 1 photograph.

SHTAYERMAN, Yu.Ya., doktor tekhn.nauk

Techniques for the production of concrete developed by the Tiflis Construction and Water Power Engineering Research Institute. Gidr. stroi. 32 no.6:17-21 Je '62. (MIRA 15:6)
(Concrete construction)

SHTAYERMAN, Yu.Ya., doktor tekhn. nauk, prof.; DZHIMSHELEISHVILI, G.A., doktor tekhn. nauk, prof., otvshchestvennyy red.

[Vibration activated concrete] Vibroaktivirovannyi beton. Tbilisi, Gos.izd-vo "Sabchota Sakartvelo," 1963. 179 p. (MIRA 17:4)

ABASHIDZE, Andrey Ivanovich; BERENSHTEYN, Semen Abramovich; SAPOZHNIKOV, Fedor Vasil'yevich; SHTAYERMAN, Yu.Ya., prof., red.; LARIONOV, G.Ye., tekhn. red.

[Foundations for steam turbines (turbogenerators)] Fundamenty parovykh turbin (turbogeneratorov). Moskva, Gosenergoizdat, 1963. 334 p. (MIRA 17:3)

SHTAYERMAN, Yuliy Yakovlevich; TAMASIDZE, Pavel Archilovich

[Study of a multifractional filler for concrete] [Issledovanie mnogofraktsionnogo zapolnitelia betona. Tbilisi, Sabchota Sakartvelo] 1964. 64 p. [In Georgian] (MIRA 18:7)

SHTAYERMAN, Yu.Ya.; KHVOLES, A.R.; CHIKOVANI, T.D.

Limiting state of equilibrium of a concrete mixture. Soob. AN Gruz. SSR 39 no.3:639-646 S '65. (MIRA 18:10)

1. Tbilisskiy institut gidroenergetiki i sooruzheniy imeni Vintera. Submitted February 1, 1965.

SHTAYNGART, Leo [Stajnhart, Leo], doktor meditsiny; DITE, Bogumil [Dite, Bohumil], doktor meditsiny; PETRLE, Miroslav, doktor meditsiny; PROKHAZKA, Yaroslav [Prochazka, Jaroslav], prof., doktor meditsiny; BELOBRADEK, Zdenek, doktor meditsiny; TOMANEK, Yuriy [Tomanek, Jiri], doktor meditsiny

Significance of angiocardiography in the diagnosis of congenital heart defects with left-to-right shunt. Khirurgiia no.10:56-63 '64. (MIRA 18:8)

1. Kardiologicheskiy tsentr klinicheskoy bol'nitsy v Gradtse Kralove i rentgenologicheskoye otdeleniye garnizonnoy bol'nitsy, Yaromerzh.

SOV/137-57-6-11125

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 248 (USSR)

AUTHORS: Radchik, A.S., Nikiforov, I.P., Shtayger, Ye.V.

TITLE: Recording Wear, Moment of Friction, and Temperature in the Process of Wearing With the Aid of Wire Resistance Strain Gages (Registratsiya iznosa, momenta treniya i temperatury v protsesse iznashivaniya pri pomoshchi provolochnykh datchikov soprotivleniya)

PERIODICAL: V sb.: Povysheniye iznosostoykosti i sroka sluzhby mashin. Kiyev-Moscow, Mashgiz, 1956, p 182

ABSTRACT: A method was developed for the simultaneous recording of the wear and of the coefficient of friction without stopping the testing machine. The tests were conducted on an upright type machine. The wear was determined with the aid of wire resistance strain gages (WRG) pasted on a small bar which receives the bending force from the specimen (which varies in relation to the wear of the specimen); the coefficient of friction was determined with the aid of WRG pasted on the small bar receiving a force from a drum with a crossbar which is entrained by the forces of friction; the temperature at the contact surface was determined by the thermoelectric method. G.B.

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MAK, S.L., inzh.; SHTAYGER, Ye.V., inzh.

Devices for measuring stresses in ropes. Stroi. i dor. mashinostr. 3 no.9:24-25 S '58. (MIRA 11:10)
(Rope--Testing)

S/119/60/000/012/010/015
B012/B063

AUTHORS: Radchik, A. S. and Shtayger, Ye. V.

TITLE: Dynamometric Pickups With Systems of Helical Resistance Pickups

PERIODICAL: Priborostroyeniye, 1960, No. 12, pp. 22-24

TEXT: Fig. 1 shows a resistance pickup for which a partially hollow cylinder with two flanges is used as an elastic element. Wire resistors are wound round the cylinder. The hollow parts of the elastic element undergo 80% of the total deformation, while only 20% goes to its central part. Therefore, the active windings 1 and 2 and the compensating windings 3 and 4 are arranged in the way shown in the figure. However, these elements have a disadvantage: Friction occurs on the front. To eliminate this disadvantage, a pickup consisting of two special cup springs has been designed. It is shown that the parameters of the spring may be determined from the formula given in the paper (Ref., footnote on p.23) for the spring tension and from the formula given here for the thickness, s, of the disk if the load and the sag, f, are assumed. Tests of the pickup at NIKIMP have

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Dynamometric Pickups With Systems of Helical Resistance Pickups

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B012/B063

shown that the signal power can be increased by four times when using cup springs instead of the usual elements with strain gauges. There are 4 figures, 1 table, and 1 Soviet reference.

Text to Fig. 1: System of Helical Resistance Pickups.
Text to Fig. 3: Pickup Consisting of Two Rigid Cup Springs, and the Characteristic of Stress Distribution According to the Thickness of the Leading Edge of the Spring.

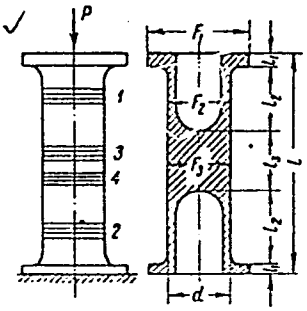
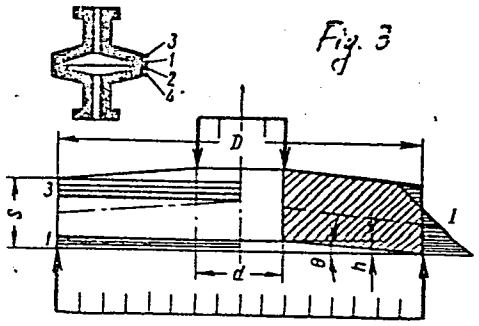


Рис. 1. Датчик с винтовыми преобразователями.

Fig. 3



Card 2/2

OLEYNIK, N.V., SHTAYGER, Ye.V.

Determining the weight of fatigue testing machinery. Zav.lab. 26 no.5:609-610 '60. (MIRA 13:7)

1. Odesskiy politekhnicheskiy institut.
(Fatigue-testing machines)

SHTAYGER, Ye.V.

Nonlinearity in the performance of strain-measuring scale pickups. Izm.tekh. no.11:19-20 N '62. (MIRA 15:11)
(Strain gauges)

S/119/63/000/003/006/010
D201/D308

AUTHORS: Dymkovskiy, V.P., Radchik, A.S. and Shtayger, Ye.V.

TITLE: A dynamometric pick-up

PERIODICAL: Priborostroyeniye, no. 3, 1963, 17-18

TEXT: A brief description of the mechanical construction of a linear resistive pressure transducer developed at the department of elements of machines of the Odesskiy politekhnicheskiy institut (Odessa Polytechnic Institute). The flexible element of the pick-up has a max. loading of 15 t, it is made of steel 70C3A (70SZA). The transducer converts the flexural deformation of the discordal part of the transducer into the radial deformation of two rings bonded rigidly to the body of the flexible element. Tensometric wire, covered with a layer of glue, is bonded to the cylindrical surface of each ring. The effects of certain factors in design on the transducer performance are tabulated. The pick-up is stated to be 3 times as sensitive as that with a loop and 9 times more sensitive than one with a spiral wire transducer. There are 2 figures and 1 table.

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SHTAYGER, Ya.V.; KRIVTSOVA, E.N.

High-precision strain-measuring stand based on the PMS-48 potentiometer. Izm. tekh. no.1:23-24 Ja '64.
(MIRA 17:11)

S/191/60/000/009/003/010
B013/B055

AUTHORS: Iskra, Ye. V., Shtaykhman, G. A., Li, P. Z., Mikhaylova, Z.V., Sedov, L. N., Al'shits, I. M., Kats, L. F., Papysheva, Ye.V., Eksanov, V. A.

TITLE: Glass Fiber Laminates. 12. Dyeing of Polyester Glass-reinforced Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 9, pp. 11 - 15

TEXT: The present work deals with the dyeing of glass-reinforced polyester plastics and the dyes used for this purpose. The investigation showed that polyester resins may be colored satisfactorily with azo-, anthraquinone-, and triphenyl-methane dyes, phthalocyanine pigments, and others. The results obtained with several vat dyes and direct dyes were unsatisfactory. Inorganic pigments and dyes gave less brilliant hues than organic colorants. The results of the investigation showed that most dyes retard the gelling process. This retardation, however, is comparatively insignificant so that the properties of the hardened resin are hardly affected. To obtain well-colored products, the resin is generally applied

Glass Fiber Laminates. 12. Dyeing of Polyester Glass-reinforced Plastics

S/191/60/000/009/003/010
B013/B055

in two thin layers, a coat thickness of 0.4 - 0.7 mm being advisable. In practical use, structural glass-reinforced plastics are often exposed to sunlight. This necessitates the use of specially light-fast dyes. The color stability of samples was tested both in the laboratory under a ПРК-4 (PRK-4) quartz lamp and in open air, on roofs in Leningrad and Moscow. The following facts were established: 1) Polyester resins turn yellowish under sunlight. This is particularly noticeable with the lighter shades. 2) Inorganic pigments are the most light-fast. Direct introduction of the dye or pigment is the most expedient way of dyeing, but cannot be repeated. It is often the case, however, that the color of some structural part dyed in this manner must be renewed owing to damage or fading. This can only be done by applying enamel or oil paint. Some recipes for decorative units are given. According to destination, structural glass-reinforced plastics may be exposed to salt water, petroleum products, mineral oils, alkaline, and acid media. The coloring of plastics was stable for 4500 h in sea water, 3 h in boiling water, 3000 h in mineral oil, 24 h in 10% H_2SO_4, and 24 h in 2% NaOH. There are 5 tables and 5 non-Soviet references.

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88368
S/129/61/000/001/006/013
E073/E135

1.1110

AUTHORS: Shtayninger, Z., and Dol'nitskiy, T.

TITLE: Changes in the Metal Surface Layer Under the Influence of Electro-spark Machining

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No. 1, pp. 29-33 (+ 2 plates)

TEXT: Several authors have drawn attention to the white layer which forms during electro-spark treatment and some (Refs 5, 6, 8, 10) found two to three layers in the structure of the metal. In the zones in which the structure had changed there were indications that diffusion occurred both in nitrided and case hardened steel. The present authors investigated the changes in the chemical composition and structure of the surface layers of specimens during spark erosion slotting of shallow grooves. The changes in the chemical composition of the surface layers which were directly exposed to the effect of electrical discharges were investigated by means of emission spectrum analysis. The slotting was done by means of a vertical direct current electro-spark machine of a special design (60-120 V, 0.1-6 A; the capacitance of

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the circuit could be varied between 0.5 and 150 μf). Eutectoidal carbon steels, low alloy (manganese and silicon) steels, cermets and chemically pure aluminium were machined. Electrolytic copper, graphite, aluminium, tin and nickel were used as electrodes. The changes in the chemical composition were investigated by means of a Q-24 spectrograph with an average degree of dispersion. As an excitation source an FF-20 generator was used with a secondary voltage of 12 000 V, a capacitance of 5000 μf and the inductance switched off. Photometering was by means of a Zeiss photometer. All investigations were carried out in two series. The first included study of the changes in the chemical composition of the metal surface. Preliminary results showed that the shape of the machined surfaces had no influence on the obtained results. Therefore, subsequent investigations were carried out on strips with various parameters of the current. The electro-spark slotting was carried out in all the experiments in kerosene with a current of 1 A, 80 V, whereby the capacitance and the machining time were

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variables. For slotting steel strips with a copper or a carbon electrode the capacitances were 4, 12 and 150 μf respectively, and the machining times were 5, 10 and 15 min respectively; in slotting cermets (with a carbon electrode) the capacitances were respectively 2, 12, 56 and 150 μf and the machining time 10 min. In addition, steel strips were machined in denatured alcohol; the machining time was 5 min in each case, using various electrodes (copper, aluminium, graphite, tin, nickel) and various capacitances (1, 4, 12, 56 and 150 μf). Aluminium strips were also machined under similar conditions, using graphite and copper electrodes. The changes in the contents of aluminium, nickel and tin at the surface of the steel plates are presented in the graph Fig.1 as functions of the circuit capacitance; Fig.1a characterizes the diffusion of the metal established by spectrum analysis for 15 sec exposure without previous arcing; Fig.1b was also obtained for a 15 sec exposure, after preliminary arcing for 15 sec. The latter represents to a certain extent the thickness of the layer of the given metal and the strength of its bond to the surface of the base metal.

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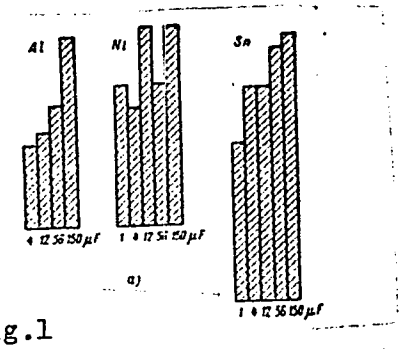
Changes in the Metal Surface Layer Under the Influence of Electro-spark Machining



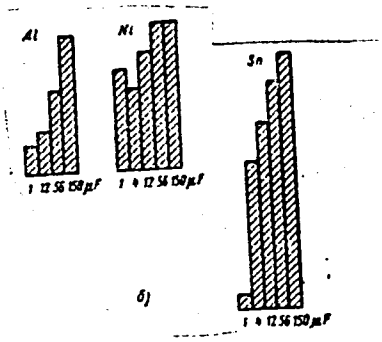


Fig.1

In another series of tests the reverse diffusion, i.e. the diffusion of the elements of the machined metal into the electrodes, was studied. The changes in the structure of the metal were investigated in slotting steel plates with copper electrodes of 1 mm dia., using a current intensity of 1 A, a voltage of 110 V

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and varying the capacitance between 2 and 84 μf. It was found that the thickness of the white layer increased with increasing capacitance between 2 and 50 μf; for 84 μf the layer became thinner again. The respective thicknesses of the white layer for these capacitances were: average thickness 0,092, 0,0575 and 0,032 mm respectively, maximum thicknesses 0,024, 0,101 and 0,085 mm. In a further series of tests the influence of the initial structure was studied. The structural changes were more pronounced in hardened specimens than in annealed specimens. The hardness of the white layer in the case of hardened specimens was 644-810 kg/mm^2. In the case of the annealed specimens no appreciable changes of the microhardness were observed. The following conclusions are arrived at: 1) Electro erosion slotting produces diffusion of the electrode material into the machined material and vice versa. In addition, the metal which is finely suspended in the liquid diffuses into the metal being machined. 2) Within certain limits the quantity of metal which diffuses from the electrode into the machined surface is proportional to the

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Changes in the Metal Surface Layer Under the Influence of Electro-spark Machining

capacitance of the electro-erosion circuit. 3) The depth of the white layer depends on the applied capacitance; generally, with increasing capacitance the thickness of this layer increases. 4) The initial structure of the steel has a major influence on the structure formed in the neighbourhood of the machined spot. The white strip will form regardless of the nature of the initial structure but its microhardness will differ. A structure with an increased hardness and a tempered layer were clearly observed in the hardened specimens. For the other initial structures these layers were not clearly observed, particularly in cases of lower current intensities.
There are 5 figures, 2 tables and 12 references: 6 Soviet, 5 Polish and 1 English.

ASSOCIATION: Tsentral'naya issledovatel'skaya laboratoriya Zabzhe, Pol'sha
(Central Research Laboratory, Zabrze Poland)

Card 6/6

KISLYY, P.S.; KUZENKOVA, M.A.; SHTAYNLYAUF, G.I.; SOLOVYKH, M.A.

Thermocouple tips for continuous temperature control in copper smelting furnaces. Ogneupory 30 no.9:36-39 '65.
(MIRA 18:9)

1. Institut problem materialovedeniya AN UkrSSR (for Kislyy, Kuzenkova). 2. Balkhashskiy gornometallurgicheskiy kombinat (for Shtaynlyauf, Solovykh).

STANOVOVA, T.I.; POKROVSKIY, V.I.; TSEYDLER, S.A.; SHTAYNSHNAYDER, E.Ye., professor, direktor kliniki; ZALESKVER, N.G., glavnyy vrach.

Dehelminthization by means of oxygen in the clinical treatment of infectious diseases. Med.paraz.i paraz.bol. no.3:260-262 My-Je '53.
(MLRA 6:8)

1. Klinika infektsionnykh bolezney I Moskovskogo ordena Lenina meditsinskogo instituta (for Shtaynshnayder). 2. Krasnosovetskaya bol'nitsa (for Zaleskver). (Worms, Intestinal and parasitic) (Oxygen--Therapeutic use)

IVANOV, N.; SHTEDING, A.

Determining the level of mechanization and automation in coal mines. Biul. nauch. inform.: trud i zar. plata 5 no.7:12-18 '62. (MIRA 15:7)

(Donets Basin--Coal mines and mining)
(Automation)

SHTEDING, A. E., Cand Tech Sci -- (diss) "Ways of improving the systems of preparation of adjacent [redacted]-sloping seams of the Vorkuta Coal deposit." Len, 1957. 21 pp (Min of Higher Education USSR, Len Orders of Lenin and Labor Red Banner Mining Inst im G. V. Plekhanov, Pechora Affiliate of the All-Union Sci Res Coal Inst), 100 copies (KL, 2-58, 114)

SHTEDING, A.E., inzhener.

Mining systems used in the over-all mechanization of cleaning and preparatory operations. Mekh. trud. rab. 11 no.2:23-24 F '57. (MIRA 10:5)

1. Pechorskiy filial Vostochnogo nauchno-issledovatel'skogo ugol'nogo instituta.

(Coal mines and mining)

SHTEDING, A.E.

Ways of improving the drvelopment of contiguous flat seams in the Vorkuta deposits. Ugol' 32 no.9:4-8 S '57. (MIRA 10:10)

1.Pechorskiy filial Vsesoyuznogo nauchno-issledovatel'skogo ugol'nogo instituta.
(Vorkuta Basin--Coal mines and mining)

IVANOV, N.I.; SHTEDING, A.E.; Prinimali uchastiye: ZYKOV, V.N., inzh.; BEREZNITSKIY, I.I., inzh.; NORENKO, N.A., inzh.; SOCHINSKIY, V.P., otv. red.; NURMIUKHOMEDOVA, V.F., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.

[Reorganization of coal mines] Rekonstruktsiia ugol'nykh shakht. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu. Pt.1. [Practices of foreign countries in the reorganization of coal mines] Zarubezhnyi opyt rekonstruktsii shakht. 1961. 222 p. (MIRA 15:1)

(Coal mines and mining)

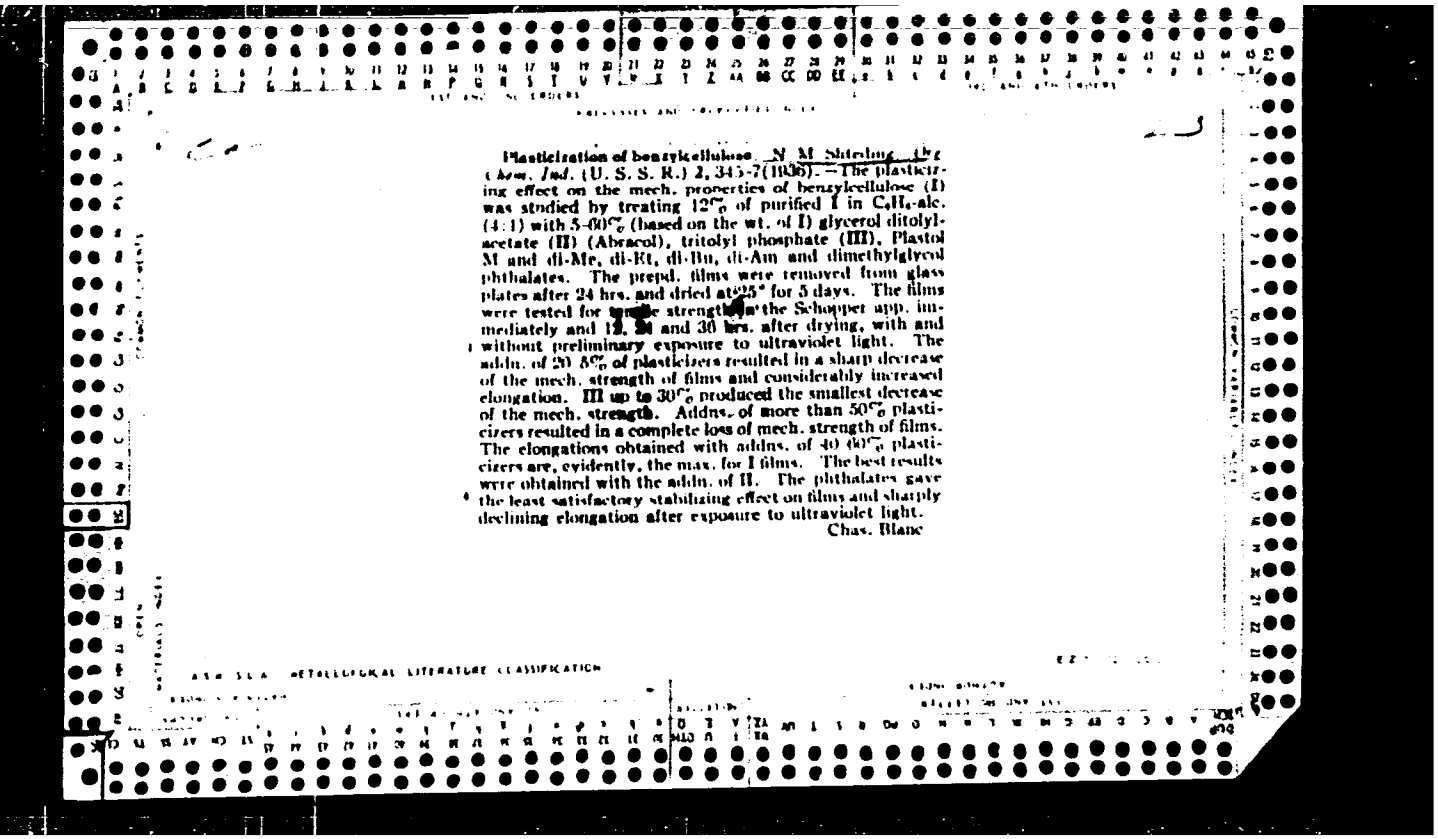
IVANOV, N.I., kand.tekhn.nauk; SHTEDING, A.E., kand.tekhn.nauk

Basic trends and technological developments in the reorganization of coal mines in foreign countries. Ugol' Ukr. 5 no.5:41-43 My '61. (MIRA 14:5)

1. Donetskiy nauchno-issledovatel'skiy ugol'nyy institut.
(Coal mines and mining)

SHTEDING, A.E., kand.tekhn.nauk; IVANOV, N.I., kand.tekhn.nauk

Methodology for determining the level of mechanization and automatic control of labor and the use of nonmechanized labor in coal mines. Sbor. DonUGI no.28:30-50 '62. (MIRA 16:8)
(Coal mines and mining—Labor productivity)



Plasticization of benzylcellulose. N. M. Shtenberg. *Khim. Prom.* (U. S. S. R.) 2, 345-7(1936).—The plasticizing effect on the mech. properties of benzylcellulose (I) was studied by treating 12% of purified I in C_6H_6-alc. (4:1) with 5-60% (based on the wt. of I) glycerol ditolylacetate (II) (Abracol), tritolyl phosphate (III), Plastol M and di-Me, di-Et, di-Bu, di-Am and dimethylglycol phthalates. The prepd. films were removed from glass plates after 24 hrs. and dried at 25° for 5 days. The films were tested for tensile strength on the Schopper app. immediately and 12, 24 and 30 hrs. after drying, with and without preliminary exposure to ultraviolet light. The addn. of 20-35% of plasticizers resulted in a sharp decrease of the mech. strength of films and considerably increased elongation. III up to 30% produced the smallest decrease of the mech. strength. Addns. of more than 50% plasticizers resulted in a complete loss of mech. strength of films. The elongations obtained with addns. of 40-60% plasticizers are, evidently, the max. for I films. The best results were obtained with the addn. of II. The phthalates gave the least satisfactory stabilizing effect on films and sharply declining elongation after exposure to ultraviolet light.

Chas. Blanc

REITLINGER, S. A., and M. N. SKREDING.

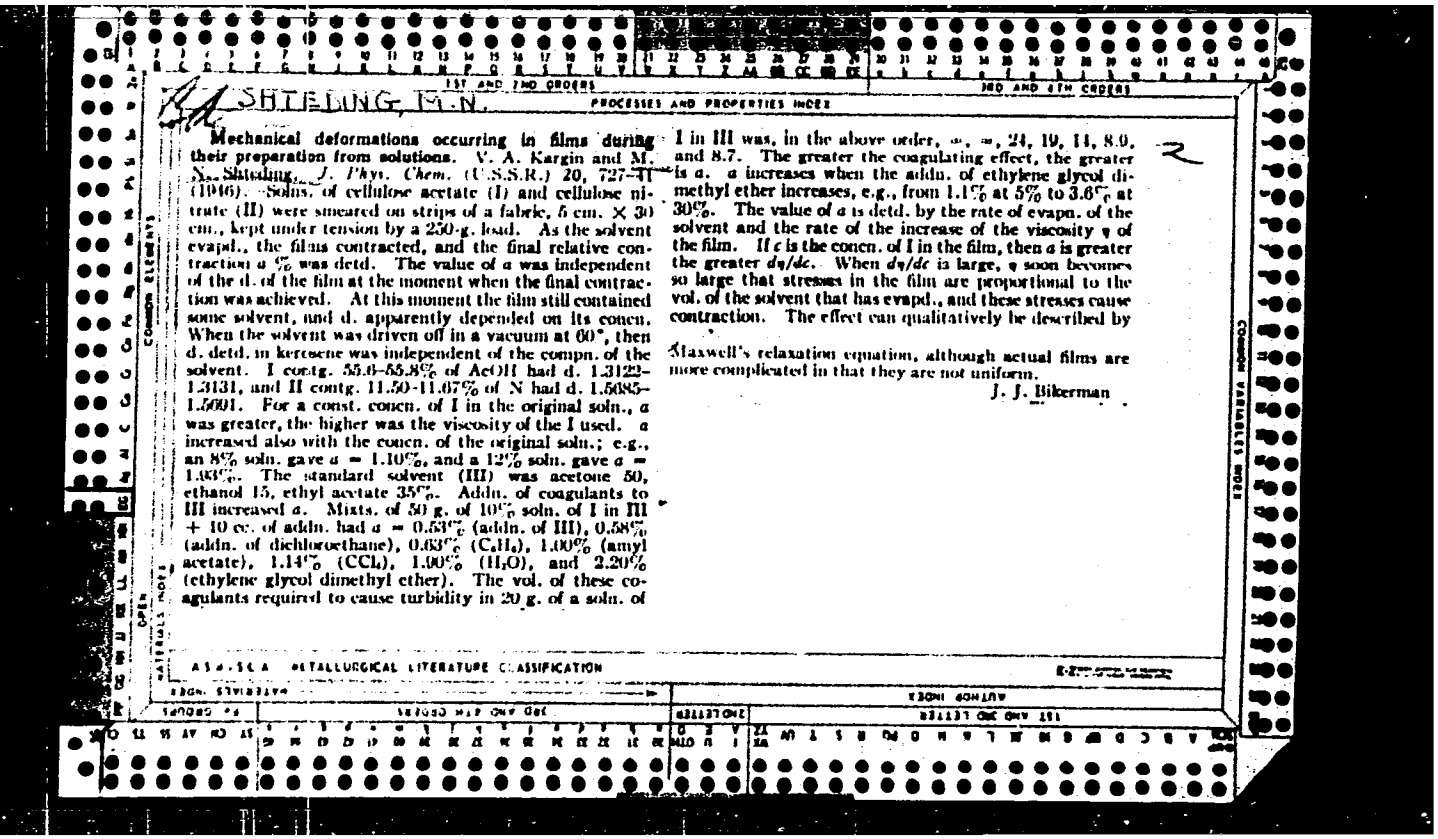
Lakirovannaia obtiazhka karkasa zhestkogo dirizhablia. Moskva, Glav. red. aviats. lit-ry, 1938. 44 p., illus.
Bibliography: p. 44.
Title tr.: Doped covering of the airframe of a rigid airship.

TL662.E6R4

30: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

SHTEDING, M. N.

Preparation of lacquers with benzylcellulose. M. N. Shteding. *Org. Chem. Ind.* (U. S. S. R.) 5, 526-33 (1938).—A discussion based on literature and some exptl. evidence. Fifteen references. Chas. Blanc



SHTEIUNG, M. N.

Mechanical deformations occurring in films during their preparation from solutions. V. A. Kargin and M. N. Shteiung. *J. Phys. Chem.* (U.S.S.R.) 20, 727–41 (1946). Solns. of cellulose acetate (I) and cellulose nitrate (II) were smeared on strips of a fabric, 5 cm. × 30 cm., kept under tension by a 250-g. load. As the solvent evapd., the films contracted, and the final relative contraction a % was detd. The value of a was independent of the d. of the film at the moment when the final contraction was achieved. At this moment the film still contained some solvent, and d. apparently depended on its concn. When the solvent was driven off in a vacuum at 60°, then d. detd. in kerosene was independent of the compn. of the solvent. I contg. 55.6–55.8% of AcOH had d. 1.3122–1.3131, and II contg. 11.50–11.67% of N had d. 1.5085–1.5091. For a const. concn. of I in the original soln., a was greater, the higher was the viscosity of the I used. a increased also with the concn. of the original soln.; e.g., an 8% soln. gave a = 1.10%, and a 12% soln. gave a = 1.93%. The standard solvent (III) was acetone 50, ethanol 15, ethyl acetate 35%. Addn. of coagulants to III increased a. Mixts. of 50 g. of 10% soln. of I in III + 10 cc. of addn. had a = 0.53% (addn. of III), 0.58% (addn. of dichloroethane), 0.63% (C_6H_6), 1.00% (amyl acetate), 1.14% (CCl_4), 1.90% (H_2O), and 2.20% (ethylene glycol dimethyl ether). The vol. of these coagulants required to cause turbidity in 20 g. of a soln. of I in III was, in the above order, ∞, ∞, 24, 19, 11, 8.0, and 8.7. The greater the coagulating effect, the greater is a. a increases when the addn. of ethylene glycol dimethyl ether increases, e.g., from 1.1% at 5% to 3.6% at 30%. The value of a is detd. by the rate of evapn. of the solvent and the rate of the increase of the viscosity η of the film. If c is the concn. of I in the film, then a is greater the greater $d\eta/dc$. When $d\eta/dc$ is large, η soon becomes so large that stresses in the film are proportional to the vol. of the solvent that has evapd., and these streaks cause contraction. The effect can qualitatively be described by Maxwell's relaxation equation, although actual films are more complicated in that they are not uniform.

J. J. Bikerman

SHTEDINE, M.N.

Thermomechanical methods of study of high polymers. V. A. Kargin and M. N. Shteding. *Khim. Prom.* 1955, 74–9.—The thermomech. methods of polymerization study consists in an investigation of the mech. property changes during gradual temp. rises from −60 to +220° and higher. The method can be used for the study of structural characteristics of polymers, of the intermediates and of the finished products, including the effectiveness of plasticizers, stabilizers, etc., the initial deformation temp., the cold and heat resistance. In the present article, the compression deformation was studied by a period 50-g. increase of the load on a 7-mm. diam. sepcimen, 2–3 mm. thick. Polyvinyl chloride, polyisobutylene, polystyrene, polyethylene, and polyamides of various properties were studied, with or without addns.

W. M. Sternberg

SHTEDING, M. N.

V The thermomechanical method of studying the polyvinyl chloride aging. V. A. Kargin and M. N. Shteding. *Khim. Prom.* 1955, 137–41.—The polyvinyl structure changes in aging, in particular in the light, and a thermomech. method to be used in the evaluation of the aging has been described previously by the authors (*C.A.* 49, 14371*b*). The powd. and sifted samples were irradiated in quartz ampuls by rotating them around an ultraviolet lamp at a distance of 12 cm. from the light with either free access of air or in vacuum. By a special arrangement the temp. was maintained at 32–3° during the irradiation. The mech. properties were tested after pressing the samples into disks 7 mm. in diam. 2–3 mm. high. Aging effects were studied with respect to changes in structure and properties of the original polymer, the irradiation time, the effect of O, and the temp. during the irradiation. The thermomech. effects are claimed to facilitate the study of the destructive effects during aging, and the new bond formation. The reactive groups in the polymers at room temp. are in an inhibited state, and interact slowly. Their presence is demonstrated by liquefying the samples and raising them to definite temps. The first aging step consists in splitting off HCl with a rupture of the mol. chain. Reactive groups or free radicals are formed during the rupture, and may either become deactivated by reaction with low-mol.-wt. impurities present, or recombine with other mol. chains, with the formation of new bonds. When O is present, the reactive groups may have the double bonds ruptured. Such reactions may also progress as chain reactions, either with destruction, or with synthesis by bonding of mol. chain fragments.

W. M. Sternberg

62

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SHTEDING, M.N.

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Utilization of poly(vinyl chloride) polymerization for the manufacture of radiation protective material for personnel. M. N. Shteding, L. M. Nosova, I. I. Kuz'mina, V. I. Karpov, L. G. Danilova, and S. M. Gorodinskii. *Khim. Prom.* 1956, 408-11.—A method was developed for a comparative evaluation of the radioactive sorption-desorption properties of plastics by using Cs^{134}, Ce^{144}, Ru^{106}, Sr^{89}, and Co^{60} of equal specific activities. During the sorption stage the materials were kept in contact with the residue left after the evapn. of 5-6 drops of the radioactive solns. for 18 hr. contact, and for 2 week contact, i.e. after a short and a long contamination, and the desorption counted (1) after washing for 3 min. with Na salts of aliphatic sulfo alcs., (2) after prolonged washing with dil. acid (18 hrs. with 4% HCl, or 3 hrs. with 9% HNO_3); (3) by repeating the acid wash. The effects of the preliminary working of the resin, the plasticizers, stabilizers, lubricants, dyes, pigments, fillers upon the sorption and desorption were tested, and the results indicate that dibutyl or dioctyl phthalates as plasticizers, stearin or Ba stearate, or diphenylmethane as stabilizers can be used to advantage, but reduce too much the wearing properties of the plastics to justify their use.

W. M. Sternberg

RML

SHTERLING, M.N., [illegible], SM, [illegible], V.I., MOSCOW, I.M.,

"Selection of Plastic Polymer Materials for Use in Equipment for Personal Protection". p. 24

Trudy Vsesoyuznoy Konferentsii po Meditsinskoy Radiologii (Voprosy Gigiyeny i Dozimetrii) Medgiz, 1957, Moscow Russian, OK.

Proceedings of the All-Union Conference on Medical Radiology (Hygienic and Dosimetric Problems)

37639
S/190/62/004/005/015/026
B110/B108

15.8050

AUTHORS: Shteding, M. N., Kargin, V. A.

TITLE: Thermomechanical study of the inhibitory properties of stabilizers. I. Method. Investigation of the efficiency of stabilizers in the light aging of polyvinyl chloride

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 5, 1962, 720 - 727

TEXT: The first thermomechanical investigation into the efficiency of inhibitor stabilizers was carried out by V. A. Kargin et al. (Zh. fiz. khimii, 23, 532, 1949; ibid., 23, 563, 1949). In their method, the temperature dependences of deformation are determined at constant load and period of action (Fig. 1). In this way, curves were plotted for the deformation of irradiated PVC. After 1 hr of irradiation, the steadiness of the curves is disturbed as a result of destruction and trend to bond formation. After 2 hrs, cross linkage takes place, marked polydispersity can be observed, and the flow capacity is partly lost between 160 and 180°C. After 24 hrs, cross linkage and cease of flow are complete. Destructive processes predominate in the absence of oxygen: After 1 hr of

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Thermomechanical study of the ...

irradiation, the mean molecular weight drops sharply, and the range of flow is shifted to lower temperatures by nearly 40°C. After 24 hrs, flow is conserved since the small amount of bonds is compensated by the destruction. The inhibiting properties of stabilizers cause retardation or acceleration of cross linking, thereby changing the course of the strain curves and the range of flow. Amorphous polyvinyl chloride of the type ПФ-4 (PF-4), which tends to structuralization, was irradiated for 2 hrs, while the following stabilizers were added: (1) acceptor stabilizers without inhibiting properties; (2) inhibitor stabilizers; and (3) inhibitors of the diaryl methane series. (1) Melamine and lead silicate: When used as an HCl acceptor, melamine displayed no inhibiting properties. Addition of 10 % of lead silicate to melamine gave less bonds than in the case of pure PVC, and conserved flow since it is a good HCl acceptor and exerts an inhibitory effect. Addition of 10 % of phenyl-β-naphthyl amine retarded cross linkage and deteriorated the flow properties. Good inhibitors produce such effects even when added in very small quantities (e.g., 0.1 % of dye, 118, 2 % of Sudan III). Addition of less than 10 % of phenanthrene and dinaphthyl methane lowered the vitrification temperature and the range of flow. These compounds inhibit cross linkage and conserve

SHTEDING, M.N.; KARPOV, V.L.

Inhibiting properties of stabilizers studied by the thermomechanical method. Part 2: Organotin compounds as stabilizers of polyvinyl chloride under the effect of high temperatures and gamma rays. Vysokom. soed. 4 no.12:1806-1811 D '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni Karpova.

(Tin organic compounds)
(Vinyl compound polymers) (Inhibition (Chemistry))

ACCESSION NR: AT4016991 S/3057/63/000/000/0025/0034

AUTHOR: Gorodinskiy, S.M.; Karpov, V.L.; Nosova, L.M.; Panfilova, Z. Ye.; Rodionov, I.S.; Shteding, M.N.

TITLE: The development of a masticated rubber on a polyvinylchloride base for shielding against radioactive substances

SOURCE: Zashchitny*ye pokry*tiya v atomnoy tekhnike (Shielding in nuclear engineering); sbornik statey. Moscow, Gosatomizdat, 1963, 25-34

TOPIC TAGS: nuclear engineering, masticated rubber, nuclear shielding, radioactivity, polyvinylchloride polymer, radioactive shielding, radioactive contamination, residual activity, 57-40 rubber

ABSTRACT: It is pointed out that, of the industrial polymers produced at the present time, polyvinylchloride is, in terms of its inexpensiveness and mechanical and technological properties, the best material to serve as a base for shielding in nuclear engineering. The authors tested many masticated rubber materials on polyvinylchloride resin bases in terms of their sorption-desorption characteristic as a function of the type of polyvinylchloride resin, processing conditions and the presence of different components which provide for

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ACCESSION NR: AT4016991

the required physico-mechanical and technological properties of the material. (By "sorption-desorption properties" the authors mean the ability of the material to absorb radioactivity and to be washed free of these radioactive substances through the effect of special cleansing solutions; the sorption- desorption characteristic is expressed by the residual activity of the material in percentages of the original contamination). The results of these tests are discussed. The optimal solution of the problem of developing a material to meet the specific operating requirements involved in working with radioactive substances was found in an entirely new principle of composition. This principle consists of the introduction into the composition of specially selected admixtures of hydrophobic substances which separate out on the surface of the masticated rubber in the form of a thin layer. The research conducted along these lines by the authors led to the possibility of developing on the basis of the most accessible polymer - polyvinylchloride - a new type of shielding material, called masticated rubber formula 57-40 and 80. This material is a thermoplastic and its physical and mechanical properties depend to a large degree on the temperature (its tensile strength, for example, changes with increasing temperature) and, for this reason, the formula use must be limited to a temperature interval of from 0 to 50C. The effect of the radiation dosage on the strength

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ACCESSION NR: AT4016991

of the masticated rubber and on its elongation are discussed along with certain other specific characteristics of the material. The authors point out that formula 37-40 and 80 masticated rubber has successfully undergone tests under different conditions and is presently being widely used as a shielding material in radiochemical laboratories and at atomic power centrals. Easily deactivated and possessed of extremely high resistance to wear, this shielding material, produced in thicknesses of 2 and 3 mm, is particularly suited to continuous covering of floors and, produced in thicknesses of 0.3, 0.5 and 0.7 mm, may be utilized as a wall covering. The masticated rubber is available in colors of brown, orange, blue and white. "L.I. Kuz'mina and L.G. Danilova of the Okhtinskiy khimkombinat (Okhtinsk Chemical Works) took part in the work." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 20Feb64 ENCL: 00

SUB CODE: NP NO REF SOV: 000 OTHER: 000

Card 3/3

ACCESSION NR: AT4016992 S/3057/63/000/000/0035/0044

AUTHOR: Shteding, M.N.

TITLE: The radiation resistance of polyvinylchloride and of polymeric materials on a polyvinylchloride base

SOURCE: Zashchitny*ye pokry*tiya v atomnoy tekhnike (Shielding in nuclear engineering); sbornik statey. Moscow, Gosatomizdat, 1963, 35-44

TOPIC TAGS: nuclear engineering, radiation resistance, polymer structure, polyvinylchloride, polyvinylchloride polymer, aging, high energy radiation, radioactivity, gamma radiation

ABSTRACT: Irreversible structural changes develop in polymers under the influence of any external stimuli. These changes in the physical-chemical and operational properties of materials and objects, manufactured on the basis of these polymers, are referred to by the generic term "aging". In the present article, the authors limit themselves to one type of polymer - polyvinylchloride (PVC) - and one type of external stimulant - high-intensity radioactive radiation. The authors point out that the expanded scope of the industrial utilization of PVC has, in recent times, required the modification of certain of its properties and,

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primarily, its radiation resistance. Several results are analyzed which indicate the practical possibility of developing a new type of polymer material with increased radiation resistance. Special attention is directed, in this connection, to three fundamental problems: 1) the character of the changes which take place in PVC under the effect of high-energy radiation; 2) methods of studying the radiation resistance of polymers and polymeric materials; 3) the feasibility of increasing the radiation resistance and enhancing the operational properties of polymer materials on a PVC base. The factors effecting the change of the physico-chemical characteristics of PVC in the presence of air oxygen and radioactive radiation are analyzed and it is shown that the mechanism for the protection of the polymer in a radiation environment is extremely complex, since the admixtures introduced may perform different functions: 1) inhibit the development of structurization; 2) exert a shielding effect; 3) expend predominantly on itself the energy of the incident radiation; 4) transmit the absorbed energy to molecules containing double conjugate bonds, as a result of which energy is distributed (protection of the "sacrifice" type). The effect of polymer aging and the efficiency of the protective effect of stabilizers is studied by means of three methods: 1) transition of the polymers to the soluble state and the determination of the viscosity, molecular weight, sol-

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001550010015-3"

ACCESSION NR: AT4016992

ubility, etc; 2) determination of the induction period in the gas liberation process; 3) comparative estimate of the initial and terminal indices (as determined on a dynamometer) of the tensile strength and elongation of films subjected to specific aging cycles. In conclusion, the authors claim to have experimentally demonstrated the specific nature of the effect on PVC of admixtures of antirads and inhibitor-stabilizer in an environment of varying dosages of gamma-radiation. They have also shown the possibility in principle of increasing the radiation resistance of PVC-base polymer materials and the advisability of introducing into the practical formulas of plastics and products special admixtures - antirads and inhibitor-stabilizers in composition with the acceptor-stabilizers normally employed in industrial practice. Orig. art. has: 8 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 20Feb64	ENCL: 00
SUB CODE: NP, OC	NO REF SOV: 000	OTHER: 000

Card 3/3

VOYUTSKIY, S.S.; KARGIN, V.A., akademik; USTINOVA, Ye T.; SHTEDING, M.N.

Viscoelastic properties of unwoven textile materials. Dokl. AN SSSR 160 no.1:178-181 Ja '65. (MIRA 18:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova i TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti.

L 55048-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5012422 UR/0374/65/000/002/0003/0008
678:539.376

AUTHORS: Shtesding, M. N. (Moscow); Kargin, V. A. (Moscow)

TITLE: Determining the frost resistance of polymeric materials and films by the thermomechanical method

SOURCE: Mekhanika polimerov, no. 2, 1965, 3-8

TOPIC TAGS: thermomechanical property, polymer, polyvinyl chloride, temperature dependence / deformometer

ABSTRACT: The authors demonstrate the possibility of using the temperature dependence of deformation in uniaxial stretching of polymers at low temperatures as a quick and sensitive method of determining frost resistance. They used a device called a deformometer, developed at the Physicochemical Institute by Yu. M. Malinskiy and G. L. Slonimskiy (Zav. lab., 1956, 10, 1247), permitting measurements of tensional stress in the temperature range from -80 to 200C. The test samples were frozen in the apparatus to complete loss of strain, and the temperature was then steadily increased at set intervals of time (3 min, 5 min) and the strain measured. Tests were made on polyvinyl chloride with different contents

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L 55048-65

ACCESSION NR: AP5012422

of four plasticizers: dibutyl phthalate, dioctyl phthalate, dioctyl sebacate, and dibutyl sebacate. The optimal quantities of plasticizers and fillers and the efficiency of these materials may be thus evaluated. Results indicate that the method is very satisfactory, and it is concluded that it may be used for studying polymer structures and for industrial controls. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 12Dec64 ENCL: 00 SUB CODE: OC, TD

NO REF SOV: 008 OTHER: 004

Card 2/2

L 43098-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5008373 S/0190/65/007/003/0474/0477

AUTHORS: Voyutskiy, S. S.; Shteding, M. N.; Ustinova, Ye. T. 15

TITLE: Relaxation and thermomechanical properties of nonwoven textile materials

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 3, 1965, 474-477

TOPIC TAGS: textile, relaxation property, thermomechanical property, cotton textile polymer/ SKN 40 1GP latex, Polyani extensometer, deformometer

ABSTRACT: Using materials described in a previous work by S. S. Voyutskiy and Ye. T. Ustinova (Vysokomolek. soyed., 7, 468, 1965) and obtained from nonoriented cotton fiber saturated with butadienecrylonitryl latex SKN-40-1GP and methazine resin, the authors studied the relaxation properties of nonwoven textiles. A Polyani extensometer was used in this work. Figure 1 (a and b) shows that stress σ diminishes exponentially with time τ. The relaxation was studied on materials stretched 4% above their original lengths, and readings were taken for 60 minutes. Thermomechanical properties of these materials and of their binding substances were studied with a deformometer. Results indicate that the presence of methazine raises the temperature at which the materials begin to flow. In all the experiments the materials behaved as polymers. The possibility of applying the mechanical model method to the

Card 1/2

L 43098-65
ACCESSION NR: AP5008373

investigation of the mechanical properties of these materials is discussed. Orig. art. has: 3 graphs.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova. Fiziko khimicheskiy institut im. L. Ya. Karpova (Central Scientific Research Institute of Cotton and Paper Industry. Moscow Institute of Fine Chemical Technology. Physico-chemical Institute)

SUBMITTED: 18Mar64 ENCL: 01 SUB CODE: MT

NO REF SOV: 007 OTHER: 000

Card 2/3

L 53810-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM
ACCESSION NR: AP5014497 UR/0032/65/031/006/0758/0759
620.171:1.05

AUTHORS: Rubshteyn, V. M.; Gel'perin, Ye. I.; Belynskiy, V. A.; Shteding, M. N.

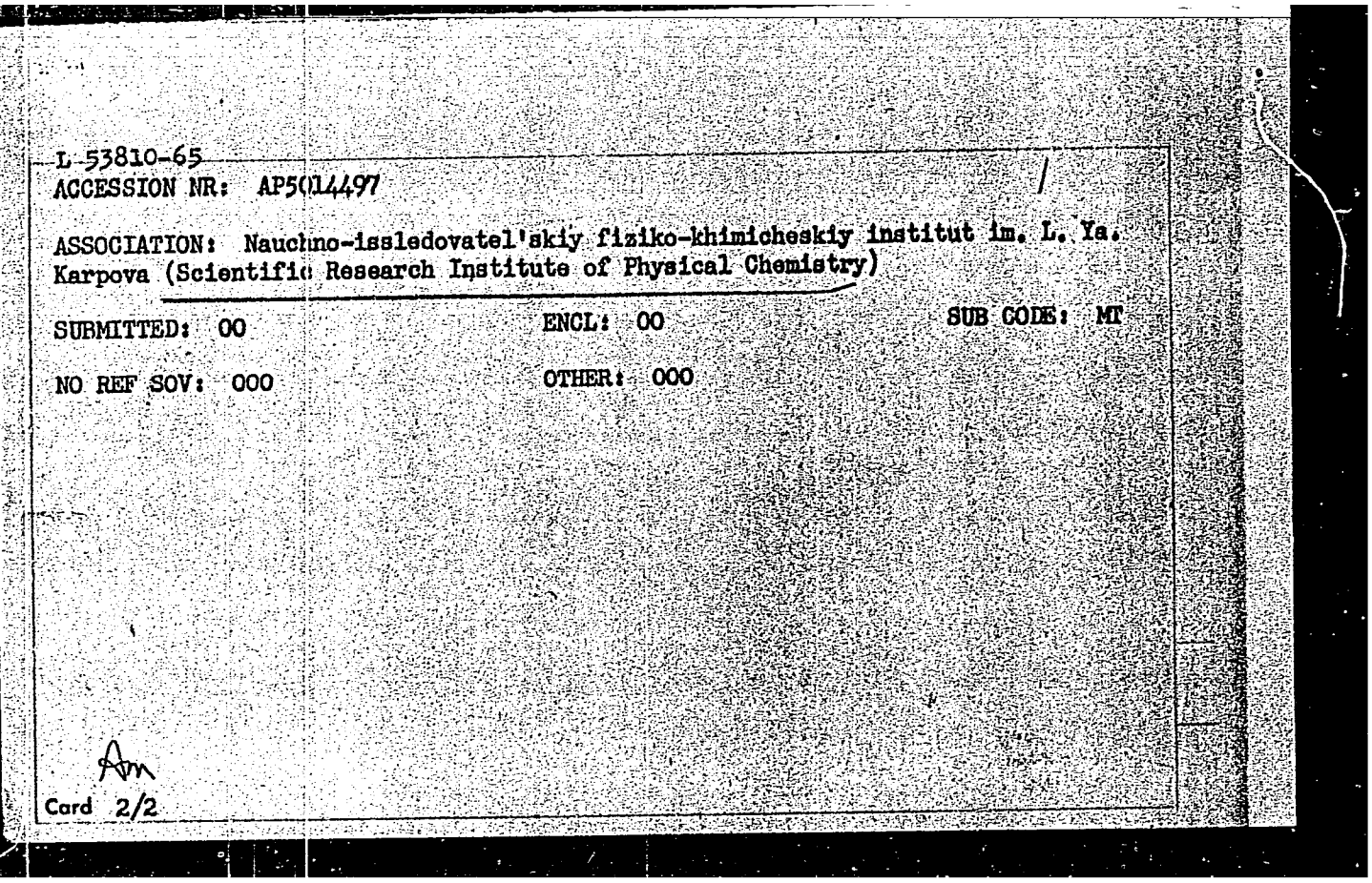
TITLE: Spring-loaded dynamometer for testing of polymeric materials

SOURCE: Zavodskaya laboratoriya, v. 31, no. 6, 1965, 758-759

TOPIC TAGS: measuring apparatus, testing device, plastic material / EPV 2 11A potentiometer, EPV2 03 potentiometer

ABSTRACT: The dynamometer described here has been designed for rapid testing of plastic materials for elongation and breaking limit at temperatures between 20 and 200C. Lengths of the tested specimen varied with different material and could reach 160 mm. A detailed description and a drawing of the instrument are given. In testing, a specimen is placed in an 0.5-kw electric oven, heated for five minutes, and subjected to tension at the rate of 3 cm per minute. Length readings are taken with an accuracy of 0.5 mm. Change in length of the spring at a maximum force of 4 kg was 31 mm. Each 0.155-mm division of the round scale corresponded to 20 grams of force. Overall dimensions of the dynamometer are 880 x 240 x 144 mm, and its weight is 10 kg. Orig. art. has: 1 figure.

Card 1/2



L 53810-65
ACCESSION NR: AP5014497

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute of Physical Chemistry)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000

Card 2/2

SIMPSON, George Wilfrid; SHTEFAN, A. [translator]

[Ukraine; a series of maps and explanations indicating the historic and contemporary geographical position of the Ukrainian people]Ukraina; seriia map i poiasnen', shcho z'iasovuiut istorychne znacheniia i suchasne geografichne stanovyshche ukrains'koho narodu. Augsburg, Ukrains'ka knyha, 1946. 48 p.
(MIRA 15:10)

(Ukraine--Historical geography maps)

SHTEFAN, I.D., inzh.; FILIPPOV, I.G., inzh.

Sinking inclined shafts in the Artem Mine. Shakht. stroi. 5 no.7:20-21 Jl '61. (MIRA 15:6)

1. Krivorozhskiy filial Ukrainskogo nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.
(Krivoy Rog Basin--Shaft sinking)

SHTEFAN, I.D., inzh.; KRIVOSHEY, I.A., inzh.

Sinking inclined shafts in the Krivoy Rog Basin. Shakht. stroi. 7 no.7:23-26 Jl '63. (MIRA 16:10)

1. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

SHTEFAN, I.D., inzh.; SORIN, M.S., inzh.

Transporting men, rocks, and material in sinking inclined shafts. Shakht. stroi. 7 no.4:9-10 Ap '63. (MIRA 16:3)

1. Krivorozhskiy filial Ukrainskogo nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

L 8415-65 EWT(m)/EWP(q)/EWP(b) Pad AEETR/ASD(a)-5/AFWDC/RAEM(t) MJW/JD/HW

ACCESSION NR: AP4048684 S/0126/64/018/001/0031/0038

AUTHOR: Livshits, B. G.; Shtefan, M.; Khalin, L. A.

TITLE: Drop in permeability with time for N79, N79M1 and N79M4 alloys

SOURCE: Fizika metallov i metallovedeniye, v. 8, no. 1, 1964, 31-38

TOPIC TAGS: permeability, alloy, nickel base alloy, weak magnetic field, iron, alterating field/ N79 alloy, N79M1 alloy, N79M4 alloy

Abstract: A study is made of the drop in permeability with time in weak fields at high temperatures for N79, N79M1 and N79M4 alloys in various states (after quenching, annealing and thermomagnetic treatment). It is observed that the rate of the fall in permeability with time depends on the temperature, composition and state of the alloy and also on the magnitude of the applied alternating field. The results are explained on the basis of the theory of directed ordering. The drop in permeability with time continues through periods when the temperature is held constant, is accelerated by an increase in temperature and has a diffusion character.

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L 8415-65

ACCESSION NR: AP4048684

A weak alternating magnetic field (less than H_c) checks the drop in permeability with time. The application of a large degaussing field restores μ0.005. The capacity for restoration in N79 alloy is reduced with an increase in temperature and holding time. The K-state and ordering of the Ni_3Fe type hinder the drop in permeability with time. The drop in permeability with time continues after thermomagnetic treatment, but at higher temperatures or at a slower rate with identical temperatures.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 28Jun63 ENCL: 00 SUB CODE: MM, EM

NO REF SOV: 002 OTHER: 010 JPRS

Card 2/2

SATSKIY, V.A.; SHTEFAN, P.T.; FEDORENKO, V.K.

Mastering the rated capacity of continuous light-section and wire rod mills. Met. i gornorud. prom. no. 2:65-66 Mr-Ap '64. (MIRA 17:9)

SHTEFAN, Radu [Stefan, Radu], profsoyuznyy organizator grupp; ZMEU, Mikhay [Zmaru, Mihai]; PYRVAN, Aleksandru [Pirvan, Aleksandru]

Trade-union group organizers of Rumania share their experience. Sov. profsoiuzy 18 no.10:25-26 My '62. (MIRA 15:5)

1. Organizator 14 profgruppy Novogo tsekha Reshitskogo metallurgicheskogo kombinata (for Zmeu). 2. Organizator 2-y profgruppy tsekha pervichnoy distillyatsii Nefteochistitel'nogo zavoda, Ployeshti (for Pyrvan).
(Rumania--Trade unions)

GOLYAKOVA, Ye.S.; SHTEFAN, V.M.

Improving the method for preparing ammonium sulfate. Prom. khim. reak. i osobo chist. veshch. no.1:7-8 '63. (MIRA 17:2)

MARKIN, S.G., inzhener; SHTEFAN, V.Ye., inzhener.

Improved operation of boilers with heated hoppers. Elek.sta.27 no.1:51-52 Ja '56. (MLRA 9:6)
(Boilers)

SHTEFAN, V Ye.

BOYEV, A.F., inzhener; MARKIN, S.G., inzhener; MAROV, I.F., inzhener; SHTEFAN, V.Ye., inzhener.

Increasing the efficiency of the boiler unit burning pulverized lean coal. Energetik 4 no.2:10-12 F '56. (MLRA 9:5)
(Boilers)

MARKIN, S.G., inzh.; POPOV, V.P., inzh.; SHTEFAN, V.Ye., inzh.

Operation of once-through wet-slagging boilers on anthracite culm. Elek. sta. 29 no.4:7-11 Ap '58. (MIRA 11:8)
(Boilers)

SHTEFAN, V.Ye.; LIBERMAN, A.A.; POMERANTSEV, O.V.

Automation of work processes in the Kharkov No.2 Hydroelectric Power Station. Energ. i elektrotekh. prom. no.2:3-6 Ap-Je '62. (MIRA 15:6)

(Kharkov Hydroelectric Power Station)
(Automatic control)

RUSHCHINSKIY, V.M., kand.tekhn.nauk; DUEL', M.A., kand.tekhn.nauk; DEMENT'YEV, V.A., inzh.; NECHAYEV, B.Ya., inzh.; [redacted], V.A., inzh.; SHTEFAN, V.Ye., inzh.

Experimental system for the control of the 67-2SP boiler and K-50-90 turbine block by means of a control computer. Teploenergetika 9 no.10:32-35 O '62. (MIRA 15:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii i Khar'kovskoye upravleniye energokhozyaystva.
(Automatic control) (Electric power stations)

DUEL', M.A., kand. tekhn. nauk; MAR'YENKO, A.F., inzh., dissertant; SHTEFAN, V. Ye., inzh.

Determination of optimal programs for starting the K-50-90 steam turbine using the model of its heating processes. Teploenergetika 11 no.12:77-79 D '64 (MIRA 18:2)

1. Gosudarstvennyy vsesoyuznyy tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii i Khar'kovenegro.

BUEL', M.A., kand. tekhn. nauk; GOPP, A.Yu., inzh.; ZAK, I.D., inzh.; MAL'YENKO, A.F., inzh.; LIBERMAN, A.A., inzh.; SHTEFAN, V.Ye., inzh.

Results of the tests of information input systems of a computer controlling a power system. Energ. i elektrotekh. prom. no.3:7-11 Jl-S '65. (MIRA 18:9)

SHTEFEL M.P.

MIKHEL'SON, N.M.; SHTEFEL', M.P.; SILAYEV, A.S.

Arrangement of the clinic for maxillo-facial surgery. Stomatologiia no.4:24-26 Jl-Ag '54. (MLRA 7:9)
(DENTISTRY, OPERATIVE, in Russia)

STEFEL, M P.

MIHALSZOM, N.M.; STJEFELJ, M.P.; SZILAJEV, A.Sz.

The aims of the Central Stomatological Institute in maxillofacial surgery. Fogorv. szemle 47 no.11:361-363 Nov 54.

(SURGERY, ORAL
in Hungary)
(DENTISTRY, OPERATIVE
in Hungary)

L 05858-67 EWT(d)/FSS-2

ACC NR: AP6022055 SOURCE CODE: UR/0146/66/009/003/0057/0062

(C2)

55

AUTHOR: Vasil'yev, V. I.; Galek, I.; Shtefka, I.

ORG: Taganrog Radio Engineering Institute (Taganrogskiy radiotekhnicheskiy institut); Engineering Institute of Control Theory and Methods in Machine Building, Brno (Inzhenernyy institut teorii i metodov upravleniya v mashinostroyenii)

TITLE: Characteristics of methods for transmitting synchronizing information by multi-frequency codes

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 3, 1966, 57-62

TOPIC TAGS: signal transmission, synchronous communication, signal coding

ABSTRACT: A scheme is discussed for developing a synchronizing code with K - 1 indexes and which passes through the same number of signal-index filters and delay devices (which are also required to deliver the received pulses simultaneously, at the end of the procedure, to a unit which performs a majority function). A parallel-series synchronizing code having n time positions, each capable of carrying several signal indexes is considered. The number of pulses reaching the majority function prior to delivery of the synchronizing code is minimized by the method of indeterminate Lagrange multipliers. The maximum number of pulses at the

Card 1/2 UDC: 62-503

L 05858-67
ACC NR: AP6022055

input to the majority function for which the synchronizing code is capable of correcting s brevity errors is also determined. The case where $s \infty$ is treated. Schemes for parallel and series codes which correct single errors are illustrated. It is concluded that 1) the capability of series synchronizing codes for correcting errors does not exceed $2\sqrt{\frac{K-1}{K-2}}$; 2) the synchronizing code may be reduced by using a parallel-series procedure; 3) for maximum reduction in code transmission time it is advisable to use the parallel procedure with an appropriate increase in the number of signal indexes. Orig. art. has: 13 formulas and 3 figures.

SUB CODE: 09,17/ SUBM DATE: 01Jul65/ ORIG REF: 003

kh

Card 2/2

L 23521-66

ACC NR: AP6008725 (A) SOURCE CODE: UR/0356/65/000/011/0007/0012

AUTHOR: Shtefko, I. (Candidate of technical sciences); Strelets, V. (Engineer); Shtefko, G. (Engineer)

ORG: none

22
B

TITLE: Transportation of mineral fertilizers in polyethylene bags

SOURCE: Tekhnika v sel'skom khozyaystve, no. 11, 1965, 7-12

TOPIC TAGS: polyethylene plastic, fertilizer, agriculture

ABSTRACT: The authors report on the use of bags made from 0.23 mm polyethylene for storage of fertilizer to reduce losses. These containers have 20 times the impact strength of multilayer paper bags. Polyethylene packaging is completely waterproof and nearly impervious to atmospheric oxygen and nitrogen. Polyethylene film can stand temperatures from -40° to +60°C and is not affected by the chemical action of mineral fertilizers. However, these bags are susceptible to punctures and tears and begin to melt at 80-90°. The bags are slippery and more flexible than paper bags which makes manual loading difficult. It is predicted that approximately 40% of the fertilizer produced in the Soviet Union will be packed in polyethylene bags by 1970. It is pointed out that Italy transports about 55% of their mineral fertilizer in polyethylene bags and that one billion bags are put out every year in the United States. The auth-

UDC: 631.82.004.3

Card 1/2

L 23521-66

ACC NR: AP6008725 O

ors describe the equipment used for loading, unloading and transportation of mineral fertilizer in polyethylene bags. Suggestions are made for increasing labor productivity at various stages of the transportation process from the warehouse to the farm. A portable Quonset type polyethylene shelter is described for temporary storage of mineral fertilizer. The unit is 28 m long, 5.5 m wide and 2.75 m high and will sell for approximately 100-150 rubles. Orig. art. has: 6 figures, 2 tables.

SUB CODE: 02,11/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2

SMORODINOV, M.A., kand. tekhn. nauk; SHTEFKO, I.V., kand. tekhn. nauk; SHTEFKO, L.M., inzh.

Overall mechanization of the loading and unloading of mineral fertilizers. Mekh. i avtom. proizv. 18 no.10:13-17 O '64. (MIRA 17:12)

SMORODINOV, M.A., kand.tekhn.nauk; SHTEFKO, I.V., kand.tekhn.nauk; SHTEFKO, G.M., inzh.

Mechanization of the loading and unloading of mineral fertilizers. Mekh. i avtom.proizv. 19 no.2:23-27 F '65.

(MIRA 18:3)

L 23521-66

ACC NR: AP6008725 (A) SOURCE CODE: UR/0356/65/000/011/0007/0012

AUTHOR: Shtefko, I. (Candidate of technical sciences); Strelets, V. (Engineer); Shtefko, G. (Engineer)

ORG: none

22
B

TITLE: Transportation of mineral fertilizers in polyethylene bags

SOURCE: Tekhnika v sel'skom khozyaystve, no. 11, 1965, 7-12

TOPIC TAGS: polyethylene plastic, fertilizer, agriculture

ABSTRACT: The authors report on the use of bags made from 0.23 mm polyethylene for storage of fertilizer to reduce losses. These containers have 20 times the impact strength of multilayer paper bags. Polyethylene packaging is completely waterproof and nearly impervious to atmospheric oxygen and nitrogen. Polyethylene film can stand temperatures from -40° to +60°C and is not affected by the chemical action of mineral fertilizers. However, these bags are susceptible to punctures and tears and begin to melt at 80-90°. The bags are slippery and more flexible than paper bags which makes manual loading difficult. It is predicted that approximately 40% of the fertilizer produced in the Soviet Union will be packed in polyethylene bags by 1970. It is pointed out that Italy transports about 55% of their mineral fertilizer in polyethylene bags and that one billion bags are put out every year in the United States. The auth-

UDC: 631.82.004.3

Card 1/2

L 23521-66

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ors describe the equipment used for loading, unloading and transportation of mineral fertilizer in polyethylene bags. Suggestions are made for increasing labor productivity at various stages of the transportation process from the warehouse to the farm. A portable Quonset type polyethylene shelter is described for temporary storage of mineral fertilizer. The unit is 28 m long, 5.5 m wide and 2.75 m high and will sell for approximately 100-150 rubles. Orig. art. has: 6 figures, 2 tables.

SUB CODE: 02,11/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2

BUZANOV, S.P., professor; SHTEFKO, I.V., kandidat tekhnicheskikh nauk.

Using through raised tracks for unloading coal in specialized stations. Vest. TSNII MPS 15 no.4:51-53 D '56. (MLRA 10:2)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta imeni I.V. Stalina.
(Railroads--Stations)

RIDEL', E.I., kandidat tekhnicheskikh nauk; SHTEFKO, I.V., kandidat tekhnicheskikh nauk.

Pallets for handling piece freight. Mekh.trud.rab. 11 no.3:42-45 Mr '57. (MLRA 10:5)
(Loading and unloading)
(Freight and freightage)

RIDEL', E.I., kandidat tekhnicheskikh nauk; SHTEFKO, I.V., kandidat tekhnicheskikh nauk.

Mechanized handling of crated and packaged freight. Zel.dor. transp. 39 no.4:83-85 Ap '57. (MLRA 10:5)
(Europe, Western--Loading and unloading)

SHTEFKO, I.V., kand.tekhn.nauk; RIDEL', E.I., kand.tekhn.nauk.

Organizing freight handling using crates on trays. Zhel. dor. transp. 40 no.1:71-75 Ja '58. (MIRA 11:1)
(Railroads--Freight)

BUZANOV, S.P., prof., doktor tekhn.nauk; SHTEFKO, I.V., kand.tekhn.nauk

Elevated through-tracks used for unloading coal in specialized freight yards. Trudy MIIT no.105:234-242 '58. (MIRA 11:9)
(Railroads--Track) (Railroads--Yards)

RIDEL', Eduard Ivanovich; SHTEFKO, Igor' Vladimirovich; GRISHCHENKOV, A.S., inzh., red.; VERINA, G.P., tekhn.red.

[Transportation of packaged piece freight by packs] Perevozka tarno-shtuchnykh gruzov paketami. Moskva, Gos.transp.zhel-dor. izd-vo, 1959. 105 p. (MIRA 12:8)
(Shipment of goods)

32(2) SOV/118-59-2-19/26

AUTHOR: Shtefko, I.V., Candidate of Technical Sciences

TITLE: Complex Mechanization in Handling Packed Piece-Freight (Kompleksnaya mekhanizatsiya pererabotki tarno-shtuchnykh gruzov)

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1959, Nr 2, pp 51-56 (USSR)

ABSTRACT: At present, packed piece freight makes up one fourth of the total freight turnover. According to the scheduled figures of the 7-Year Plan (1959-1965), this amount will increase continuously. In 1958, the mechanization of loading and unloading of packed piece freight was only 12%, because the existing work method excluded the efficient utilization of loaders. Referring to transportation abroad (the US, France, England, West Germany, Sweden, etc), the author advocates the transportation of packed piece freight using pallets and containers, direct delivery from the sender to the addressee, the use of ZIO loaders and 4004 loaders

Card 1/2

Complex Mechanization in Handling Packed Piece-Freight

(despite their poor maneuverability and insufficient lifting capacity), and the standardization of all loading and unloading operations. The author demands the mass production of standardized pallets and containers, the developing of new and more efficient loading machines with internal combustion motors, and of hand carts or trolleys equipped with hydraulic lifting mechanisms and fork catches. Figure 7 shows how to load ZIL-5,GAZ-51, ZIL-150, YaG-6 and YaAZ-200 trucks using 800X1,200 mm pallets. There are 3 photographs, 10 diagrams, and 1 table.

Card 2/2

SHTEFKO, I.V., kand. tekhn. nauk.

Efficiency of packaged freight transportation. Zhel. dor. transp. 41 no.4:49-53 Ap '59. (MIRA 12:6)
(Railroads--Freight)

BUZANOV, S.P., prof.; SHTEFKO, I.V., dots.; RIDEL', E.I., dots.; TARAKHOVSKAYA, N.K., red.; MUKHA, S.Ya., tekhn. red.

[Transportation of container and piece goods on pallets in foreign countries] Perevozka tarno-shtuchnykh gruzov na poddonakh za rubezhom. Moskva, Vses.in-t nauchn. i tekhn.informatsii, 1960. 79 p. (MIRA 15:1)
(Unitized cargo system) (Railroads—Freight)