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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Production of colored reclaimed rubber from colored synthetic rubber vulcanizates. A. P. Pisarenko. *Coal, Shoe and Rubber* (U. S. S. R.) 1938, No. [illegible]. The rubber was crushed (diam. of pieces [illegible] mm.), mixed with 20–30% of (1) 80 parts of turpentine and 20 parts of rosin or (2) 80 parts of turpentine and 20 parts of paraffin and the mixt. was heated in a kettle for 4 hrs. at 1 atm. steam pressure. The reclaimed rubber with [illegible] gave after vulcanization in a press at [illegible] for [illegible] min. tensile strengths of 54.5 kg. per sq. cm. and [illegible] kg. per sq. cm. for 25 and 35%, resp., of the 1st mixt. of softeners above. A. Pestoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Metal polysulfides as vulcanization agents and accelerators [illegible] and A. P. [illegible] 17, No. 2 [illegible] 40 [illegible] The [illegible] agents are the polysulfides [illegible] of Na [illegible] Zn [illegible] time of vulcanization very considerably [illegible] compared with that of mixes to which elemental S is added. [illegible]

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PROCESSES AND PROPERTIES

Disintegrating fiber fillers for the preparation of leather substitute A. P. Pisarenko and M. Kh. Bernshtein. *Koshevenno-Obuvnaya Prom.* 17, No. 4, 49-52 (1938). *Chem. Zentr.* 1939, II, 308. Fibers 1.03 to 0.03 mm. long were obtained after treating lint with 1% HCl in a roller mill. The fibers were 0.08-0.014 mm. long after treatment with a 5% HCl. The structure of the lint remained unchanged after treatment with 5% HCl. The moisture content of the material is important for the disintegration of the fiber. The process of disintegration is shortened about 2½ fold when the moisture content is lowered to 0.5-1%. A. A. Boehtlingk

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Vulcanization accelerator. V. I. Alekseenko and A. P. Pisarenko. Russ. 65,747, Sept. 30, 1929. Accelerators are prepd. by heating alkali metal sulfide with rosin, glycerol or glucose.

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29

Painting black rubber soles A. P. Pisarenko and F. E. Azarkh. *Kozhevenno-Obuvnaya Prom.* 18, No. 5, 43 (1939). Satisfactory results were obtained with 30% gutta-percha solns. Gutta-percha (100 parts) is mixed with fillers (200-300 parts) such as lithopone, MgO or kaolin, pigments, Neozone D (1 part), and the desired coloring agent. A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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29

PROCESSES AND PROPERTIES INDEX

The influence of the percentages of accelerators on the physical mechanical properties of colored rubber soles. I. U. Mishustin and A. P. Pisarenko. *Kozhevenno-Obuvnaya Prom.* 18, No. 9, 31(1939). — Tests of the mech. properties of soles made of Russian synthetic rubber with various percentages of mercaptobenzothiazole and tetramethylthiuram disulfide are reported. A. A. B.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

Accelerated vulcanization of synthetic rubber at high temperatures. A. P. Pisarenko. *Caoutchouc and Rubber* (U. S. S. R.) 1940, No. 8, 19-24. Synthetic sole rubber was vulcanized in a hydraulic press at temps. up to 200° and the effects of variations of S, accelerators, and both on the time of vulcanization and properties of the vulcanizates were detd. Normal addns. were S 1, tetramethylthiuram disulfide 0.08 and mercaptobenzothiazole [illegible]. By raising the temp., the time of vulcanization sharply decreased and, with normal addn. of S, overvulcanization took place by increasing the temp. to 175° and particularly to 200°. By reducing the S content, the plateau of vulcanization was extended and swelling of the vulcanizates in benzine increased. The residual elongation increased with increasing S content. The degree of swelling in benzine did not depend on the temp. of vulcanization. The plateau of vulcanization was extended by reducing the percentages of accelerators. In using temps. of 175° and 200°, it is possible to obtain vulcanizates having tensile strengths and relative elongations considerably above those of standard rubber soles, even without accelerators. After vulcanization for 5 min. at 200° without S, but with normal percentages of accelerators, the vulcanizate was of normal quality, whereas after 18 min. at 150° the rubber remained almost unaffected. The best mech. properties were obtained by reducing tetramethylthiuram disulfide by [illegible]%, mercaptobenzothiazole by 60%, and vulcanizing at [illegible]. Vulcanization was impeded by decreasing the percentages of accelerators, but at high temps. the time of vulcanization without accelerators was not greater than that required for vulcanization at 140°. With vulcanization at 175° and 200° swelling in benzine remained practically unchanged with decreasing percentages of accelerators. By simultaneously decreasing the S and accelerators, the rate of vulcanization decreased. The best results from the point of view of time of vulcanization and phys.-mech. properties were obtained by reducing the S by 30%, tetramethylthiuram disulfide by 50% and mercaptobenzothiazole by 40%. B. Z. Kamich

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Ca

The relation between physical-mechanical constants and the wear properties of rubber soles. A. A. Avilov and A. P. Pisarenko. *Tsentral. Nauch.-Issledovatel. Inst. Kozhevennoi Obuvnoi Prom., Sbornik Rabot* 13, 187-211 (1940); *Chem. Zentr.* 1943, II, 596-7.—Tests were made to det. the relation between phys.-mech. properties and those observed in service. To evaluate the tech. characteristics of rubber sheets and the products made from them, the properties must be divided into 4 groups: (1) those that govern the strength of seams, (2) those that govern the resistance to abrasion and prevent defects not directly related to seams, (3) those that govern stability on aging and storage and (4) those that govern optimum processing. For (1), resistance to tear is responsible for durability in service. The values for sewed and cemented materials are somewhat different. For (2), resistance to friction is important. Values obtained with the Grasselli app. parallel practical experience. For (3), aging, especially artificial, lowers stretch appreciably, so limits can be detd. as follows. The material is satisfactory if, after aging for 24 hrs at 70°, the extensibility is 16%. For (4), too great hardness is not desirable; the optimum is 75-85 (Shore).

I. D. Clarke

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

Rapid vulcanization of sole rubber. [illegible] and K. P. Chelysheva. *A. [illegible] Prom. S. S. S. R.* 19, No. 5, 30 (1940). Vulcanization temps. of 175 and 200° give vulcanizates with tensile strengths and relative elongations considerably above those required by standards for rubber soles. The elasticity of samples vulcanized at 175 or 200° was higher in all cases. By eliminating the accelerator and retaining a normal percentage of S, a normal vulcanizate is obtained in 5 min. at 200°, whereas at 150° the rubber remains almost completely unvulcanized even after 18 min. Best results were obtained by lowering the thiuram compd. by [illegible]% and mercaptobenzothiazole by 60% and vulcanizing at [illegible]. II. *Ibid.* No. 6, 26-9. It is possible to vulcanize black as well as colored shoe soles when sufficiently high temps. are used. The amt. of S and accelerators can be decreased considerably when the vulcanization temp. is 225°. The higher vulcanization temps. improve the quality of the goods, while a lowering in the S content increases the swelling in gasoline independently of the vulcanization temp. Aging of rubber is inhibited under the above conditions. A definite max. temp. is needed for each type of accelerator. Thus for the black rubber sole at 175° it is recommended to lower the S content by 30%, that of captax by 40% and of thiuram by 50%, while for 200 and 225° the decreases should be 15, 60 and 75%, resp.

A. A. Boehtlingk

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CA

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Vulcanization of rubber with oxygen A. D. Zaionchkovskii, A. P. Pisarenko, A. N. Zaionchkovskaya, S. D. Sevina and Ya. M. Yabko. *Kokhrenno-Oxygenovy Prom. S. S. S. R.* 19, No. [illegible] 24 [illegible] CaOCl begins to decomp. at 150° and is a vulcanizing agent at 180°. With it a product having a tensile strength of [illegible] kg. per sq. cm. and an elongation at rupture of 200-220% was obtained. Benzoyl peroxide is the most active agent. With [illegible] vulcanization starts at 150°, with 1% at 200°. NaOCl because of its heat stability, promotes vulcanization only beginning with 200°. BaO is active only above 500°. The expts. are described and the results tabulated and plotted. A. A. Boehtlingk

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CA

Rubber filler [illegible] Mishustin, A. P. Pisarenko, [illegible] Glazkov and M. Kh. Bernshtein. U.S.S.R. 64,207, Feb. 28, 1945. As filler for rubber is used lignin treated with surface active substances having polar groups such as dyes or soaps. U.S.S.R. 64,208, Feb. 28, 1945, specifies a filler of peat treated while hot with a fil. soln. of an alkali hydroxide or Na SO[illegible] filtered, washed, dried and ground. M. Hosch

METALLURGICAL LITERATURE CLASSIFICATION

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Rubberlike product

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

Activation of chalk kaolin and other mineral fillers for rubber. I. I. Tugov and A. P. Pisarenko. U.S.S.R. 66,711, July 11, 1946. Mineral fillers for rubber are pregnated with unsatd., readily polymerizable compd. [illegible]

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

21

The "Bogkhed" coals a raw material for the production of leather substitutes A. P. Pisarenko and I. I. Tugov. *Legkaya Prom.* 1946, No. 9/10, 8-10. The "Bogkhed" coals (I) are pure sapropelite coals differing sharply in their origin, chem. compn., and other properties from all other coals. The characteristics of I and the semi-"Bogkhed" coals are, resp., true d. 1.21-1.31 and 1.37-1.65, apparent d. 0.97-1.03 and 1.03-1.59, total moisture 5.81-16.90 and 8.58-25.68%, ash 8.14-15.04 and 10.12-32.07%, total S 1.8-6.70 and 1.34-4.88%, org. substances 73.15-82.97 and 51.25-67.5%, caloric value 8634-8824 and 7248-8046 cal./g. Semicoking of I at approx. 400° yields gas 6-10, tar 45-60, and semicoke 30-40%. Finely ground I can be used as filler for many rubber products, plastic leather, leather substitutes, plastics, etc. As compared with C black this filler possesses a low activity and cannot, therefore, be used as a full-value substitute. Plastification of fine I yields a product possessing a high activity and some new properties, either in the form of a highly dispersed powder or in the form of a plastic material as a substitute for reclaim. The plastic material has true d. 1.20-1.23, moisture 6.1-7.2%, ash 9.5-12.4% (of dry wt.), total S 2.8-3.9%, acetone ext. 2.4-3.7%, $CHCl_3$ ext. 0.3-0.4%. Best results were obtained with the following plastifiers: laccol, petroleum polymers, anthracene oil, natural drying oil. Studies of the effect of the temp. and duration of the plastification process showed that (1) increasing the temp. increases the swelling process, (2) with the increase in the duration of swelling the max. of swelling first increases, then decreases (this is explained by the soln. of I), (3) a max. degree of soln. is observed above 100°, (4) the max. degree of swelling of I in laccol is 40%. W. R. H.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES

New types of substitute sole leather A. P. Pissarenko and A. P. Rinel'yanova. *Legkaya Prom.* 7, No. [illegible] (1947). Substitutes for sole leathers were produced by impregnating waste fibers with various rubbery materials contg. petroleum polymers, "lakoil" (a soln. of polymerized unsatd. hydrocarbons in solvent naphtha), unsatd. vegetable oils, rosin, bitumen, etc. A soln. of 100 parts of "lakoil," 5 parts of a siccative (Pb acetate, Mn rosinate, etc.), and 10 parts of a rubbery mixt. was typical.

Marshall Sittig

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

Theory of vulcanization of synthetic rubbers. A. P. Pisarenko and P. A. Rebinder. *Izvestiya Prom.* 10, No. 9, 30-2(1950); cf. C. 1, 44, 10308a. Review of literature and some exptl. work. Effect of vulcanization can be obtained by (1) difficultly destructible "rigid" intermol. bonds of the S bridge type, (2) elastic, and to a considerable degree reversible polar bonds. Addn. to the vulcanizates of peptizers and substances which solvate the polar groupings facilitates the reversibility of the process. B. Z. K.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

The vulcanization of synthetic rubbers. A. P. Pisarenko and P. A. Rebinder. Inst. Phys. Chem. Acad. Sci. U.S.S.R., Moscow. *Doklady Akad. Nauk S.S.S.R.* 73, 129-32(1950). Only a small fraction of the total S bound in the process of vulcanization, 7-10% in natural and 2-6% in synthetic rubber, forms spatial bridges between the macromols. On the other hand, vulcanizates can be obtained with as little as 0.1-0.2% bound S relative to the wt. of the rubber. The role of the bridge S in vulcanization appears entirely secondary. The main effect of the bound S is defd. by its addn. to double bonds and formation of polar groups; the high cohesive forces of vulcanized rubbers are due to attraction between such polar groups. This point of view is corroborated by the decrease with rising temp. of the mech. strength of vulcanized rubbers, illustrated by curves for discrylonitrile, Na-butadiene, and polychloroprene rubber. Vulcanization effects are observed under conditions where bridge formation by bound S is still out of the question. Swelling in C_6H_6 vapor resulted in a regular fall of the strength and the elongation on rupture of vulcanizates, very nearly proportional to the amt. of absorbed C_6H_6, and fully reversible on elimination of the C_6H_6; this effect is analogous to that observed in unvulcanizable plastics of the type of polyvinyl acetate and chloride or polyvinylidene chloride, where intermol. bonding is due to polar groups. In the vulcanization of Na-butadiene rubber with S, admixt. of C black decreases the fall of the degree of unsatn., and favors reversal of the vulcanization; this is an indication that vulcanization is largely a matter of addn. to double bonds. N. Thou

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BTR

9572 Dependence of Structure-Forming Ability of Fil
lers on Method of Their Introduction Into Rubber In Bo

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CA
1951

Properties of vulcanized rubber as a function of temperature A P Pisarenko Legkaya Prom 11, 42 5(1951)
Review of contributions by Soviet scientists B Z K

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13268 Vulcanization of Synthetic Rubbers. A. I. Lisarenko and [illegible] Rebinder. *Rubber Chemistry and Technology*, [illegible] Sept. 1951, p. 509-57 [illegible]. Translated from *Doklady Akademii Nauk SSSR*, Reports of the Academy of Sciences of the USSR [illegible] 1950, p. 129-1[illegible]

Previously abstracted from original.

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C.A

Electron-microscopic investigation of rubber structures. A. P. Pisarenko, A. B. Shekhter, and A. I. Kchelstova (Inst. Phys. Chem. Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 76, 423-5(1951). Films 200-800 A thick of Na butadiene rubber (I) (plasticity 0.92, relative viscosity 1.26 at 0.14%, double bonds in si[illegible] 62%) prepd. by evapn. of a toluene soln., show characteristic ridge oriented at different angles and occasionally forming closed cells. With a C black (II) filter and without a surface active agent, the distribution of II is highly heterogeneous. 0.1% of stearic acid (III), benzidine (IV) or diphenylguanidine (V) does not change this picture, but with 1% III the dispersion of II is substantially improved, and large amts. of it are present in the ridges. With 3% III the dispersion of II is still further improved, but the no. of the ridges decreases sharply; this is taken as an indication of the p-ptizing action of III on the gel fraction of I. IV and V not only favor more homogeneous distribution of II, but increase the no. of the ridges where most of the II is concd. Dispersion of whiting is not promoted by these surface-active substances. N. Thon[illegible]

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PROKOF'YEV, Ya.N.; YEMEL'YANOVA, A.P.; PISARENKO, A.P.

Using high-styrene rubbers in the manufacture of microporous soles for shoes. Kozh.-obuv. prom. no.3:19-23 Mr '59. (MIRA 12:6)

(Rubber, Synthetic) (Shoe manufacture)

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SOV/[illegible]

[illegible]

AUTHORS: Kurdubov, Yu.F., [illegible], A.I., Rubina, S.I., Sht[illegible], B.V.

TITLE: Lignin as a Reinforcing Agent of SKS-[illegible] Rubber

PERIODICAL: Kolloidnyy Zhurnal, [illegible], Vol XXI, Nr [illegible], [illegible] (USSR)

ABSTRACT: The authors report on a study of the properties of vulcanizates, each containing a variety of activated lignin. The lignin varieties used for the experiments were powdered and ground with the vibromill, chloro- and alkali-activated. Vulcanizates containing [illegible]-activated lignin were [illegible] reinforced. Electron microscopic investigation revealed that coagulation of alkali-activated lignin [illegible] in the formation of a reticular structure, which is similar to the structure of carbon black. This structure, which [illegible] not be seen in the other varieties, evidently accounts for the reinforcing effect of alkali-activated lignin. The authors mention the Soviet scientists N.N. Shory-

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

Pisarenko, A.P.

618. Adhesion of high-polymers. II. Developing a method for determining the adhesion of high-polymers to one another. A. I. SHAROVALOVA, S. N. VOYUTSKII, and A. P. PISARENKO. Kol. Zhur., 1956, 18, 485-93. In Russian, with English summary. A method has been developed for determining the mutual adhesion of two high polymers based on the pulling apart of their interface. The effect on the determination of the adhesion of butadiene-acrylonitrile polymer to Cellophane was ascertained of the rate of the separation, the width of the interface, the thickness of the adhesive layer and the pressure exerted on the joint prior to the measurement. Heat treatment of the joints was found to considerably increase the adhesion. On lengthening the time of contact between the butadiene-acrylonitrile polymer and the Cellophane the adhesion increases, tending toward a given limit. It is concluded that the adhesion of a high polymer adhesive to a substrate, also of a high polymer, is due to the diffusion of the molecules of the former into the latter and *vice versa*. 3S2D21MN21.66513

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PISARENKO, A.P.

SHAPOVALOVA, A.I.; VOYUTSKIY, S.S.; PISARENKO, A.P.

Adhesion of high polymers. Part 2. Development of a method for determining the reciprocal adhesion of high polymers. Koll.zhur.18 no.4:485-493 Jl-Ag '56. (MLRA 9:10)

1.TSentral'nyy nauchno-issledovatel'skiy institut promyshlennosti zamenitelay kozhi, Moskva.
(Polymers and polymerization) (Adhesion)

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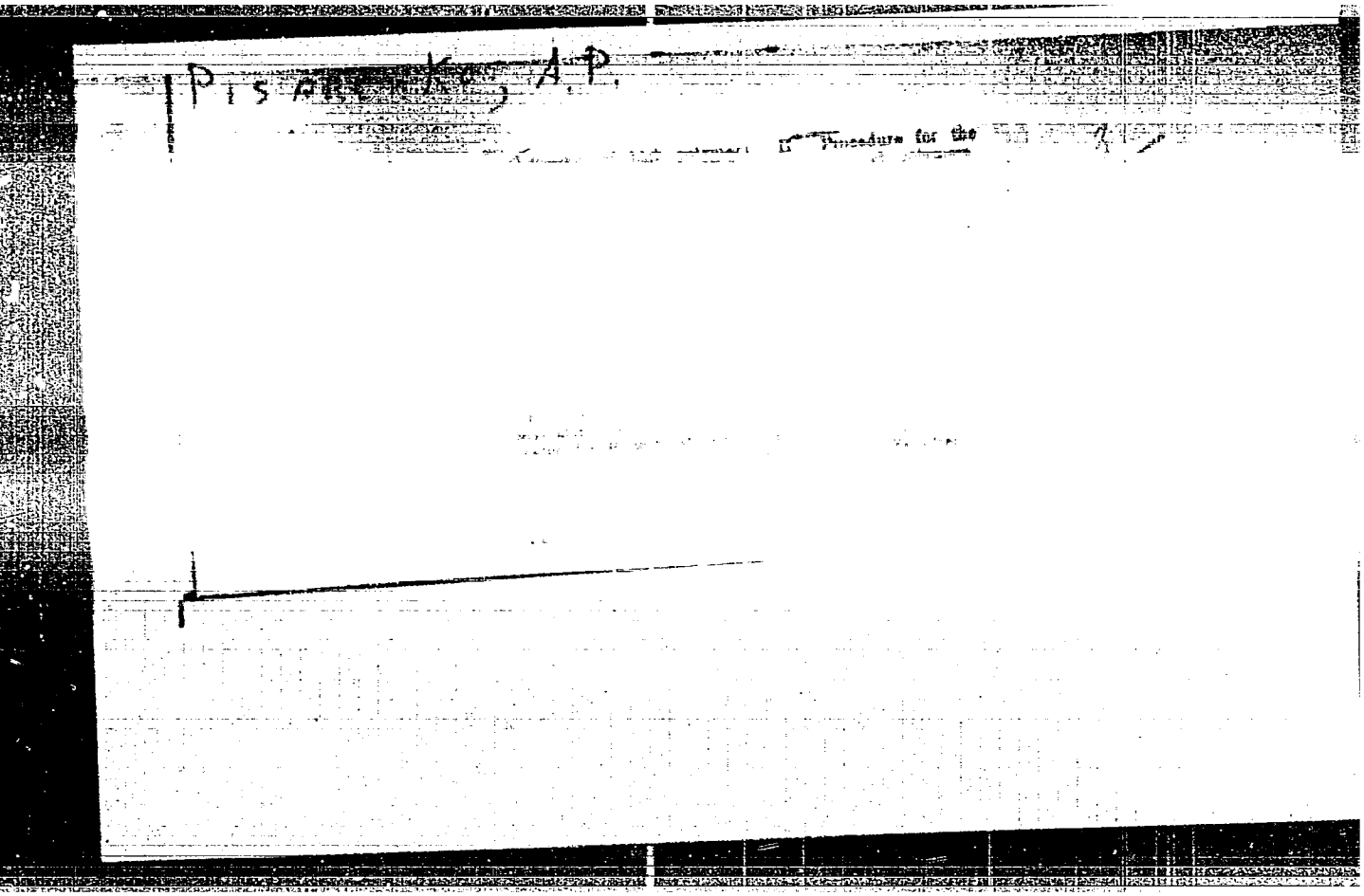

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

Pisarenko, A.P.

3135* New Type of Glue for Fastening Sheet Polyisobutylene to Metal. Novyi tip kleia dlia krepleniia listovogo poliisobutilena k metallu. (Russian.) A. P. Pisarenko and R. A. Reznikova. *Legkaia Promyshlennost'* [illegible] Oct. 1954, p. 23-28.

Compositions; strength, and other properties of glues. Tables, graphs.

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PISARENKO, A.P.

4

USSR.

13444* Organic Dyes for Polyvinyl Chloride. Organicheskie krasiteli dlia polivinilkhlorida. (Russian.) A. P. Pisarenko, B. A. Liberova, and B. D. Gordonova. Legkaia Promyshlennost', v. 15, no. 7, July 1955, p. 25-29.

Problems of creating attractive and fast dyes; tests and structures of azo dyes; phtholocyanine and athraquinone pigments. Tables. 2 ref.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

AL'BAN, M.A.; LANDA, I.M.; PISARENKO, A.P.; TUGOV, I.I.

Production of lightweight, molded, microporous footwear parts.
Leg.prom.17 no.9:13-16 S '57. (MIRA 10:12)
(Leather substitutes) (Rubber goods)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

USSR Chemical Technology - Chemical Products and Their Application - Leather. Fur. Gelatin. Tannin Agents. Technical Proteins. I-24

Abs Jour : Referat Zhur - Khimiya. N [illegible]

Author : Shtarkh, B.V., Pisarenko, A.P.

Inst :

Title : Electron Microscopic Study of Materials Used in the Manufacture of Synthetic Leather.

Orig Pub : Lekkaya prom-st', 1956, N [illegible], [illegible]-30

Abstract : The work was conducted with an electron microscope of EM-3 type which permits magnification of up to 25 thousand times. Various impregnating and adhesive agents were investigated (latices, dispersions and emulsions of high-polymers), rubbers, powders, carbon black. A drop of the dispersion was placed on a collodion-film support fastened to a brass screen. The screen was placed into camera of the electron microscope. On carrying out a comparison of a

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USSR/Chemical Technology - Chemical Products and Their Application - Leather, Fur, Gelatin, Tanning Agents, Technical Proteins. [illegible]

Abs Jour : Ref Zhur - Khimiya, No [illegible] 195 , 33.33

of synthetic latices it was ascertained that the highest degree of particle dispersion is found in SNK-26 acrylonitril latex. It is also noted that the latices are polydispersed systems. The polydisperse nature of aqueous dispersions and emulsions of high-polymers has been ascertained. The investigations revealed that that particles of zinc white have an acicular crystalline structure and not a spherical as was previously assumed. Microphotographs of kaolin and sulfur show that they consist of particles of different shape

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

LAKHTIN, A. L.; PISARENKO, A.P.

Improving the useful properties of leather substitutes with cellulose nitrate coatings. Leg. prom. 17 no.10:29-31 O '57. (Leather substitutes) (Nitrocellulose) (MIRA 10:12)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A.P.

5155. Synthetic rubber emulsions. A. P. Pisarenko and S. I. Rubina. U.S.S.R.P.105077, sec. 25.4.57. *Chem. Abs.*, 1957, 51, 11750. Mixtures of synthetic rubber emulsions with mineral fillers are prepared by adding to the latex, aqueous solutions of silicates or stabilised hydroxides of multivalent metals and then precipitating them while simultaneously coagulating the latex.

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

LAKHTIN, A.L., inzh.; PISARENKO, A.P., doktor tekhn.nauk.

Aging of nitrocellulose coatings. Leg.prom. 17 no.8:33-35 Ag '57. (MIRA 10:10)

(Leather substitutes) (Nitrocellulose)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A. P.

259. Adhesion of high polymers. III. Effect of size, shape and polarity of high polymer molecules on their adhesion to Cellophane. S. S. VOYUTSKII, A. I. SHAPOVALOVA, and [illegible] Kiev. Zh. [illegible] 19[illegible] [illegible] 1957, abs. 612. The effect of the size, shape, and polarity of macromolecules on the adhesion of a range of high polymers to Cellophane is studied with the aid of a method developed by the authors. It has been shown that the adhesion is the stronger, the lower the molecular weight of the polymer, the less the number of short side chain appendages in the macromolecule and, as a rule, the less the number in the latter of polar groups. The observed relationships have been interpreted from the standpoint of the diffusion theory of high polymer adhesion being developed by the authors. There are 12 references.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A. P.

Synthetic rubber emulsions. A. P. Pisarenko and S. I. Rubina. U.S.S.R. 105,077, April [illegible], 1957. Mixts. of synthetic rubber emulsions with mineral fillers are prepd. by first adding to the latex aq. solns. of silicates or stabilized hydroxides of multivalent metals and then pptg. them while simultaneously coagulating the latex. M. Hosch

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PISARENKO, A. P.

Synthetic rubber emulsions. A. P. Pisarenko, P. I. [illegible] Zakharchenko, S. I. Rubino, and A. P. [illegible] U.S.S.R. [illegible] Apr 25 1957. Addn. to U.S.S.R. 105,0[illegible] [illegible] proceeding [illegible] increase the [illegible] and improve the workability of reinforced [illegible] resins, [illegible] [illegible] added.

M. Hasch

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A. P.

Adhesion of high polymers. III. Effect of the size, shape, and polarity of the high-polymer molecules on the adhesion to cellophane. S. S. Voyutskii, A. I. Shangovalova, and A. P. Pisarenko (Central Sci. Research Inst. Leather Substitutes Ind., Moscow). *Kolloid. Zhur.* 19, 274-80 (1957); cf. *C.A.* 51, 10113h.—Films of polymers were deposited on cellophane by solvent evaporation and then peeled off. The resistance R to peeling as a function of the mol. wt. M had a max. at M = 20,000 for polyisobutylenes, and was greater for polyisoprene of M = 20,000 to 150,000 than for natural rubber of M = 150,000 to 300,000. For polybutadienes and copolymers of butadiene (I) and styrene, R increased as the no. of short side chains in the plastic decreased. For copolymers of I and CH_2:CHCN, R increased with the relative amt. of I. R is detd. either by cohesion or by adhesion, and the latter depends on diffusion of polymer into cellophane. J. J. Bikerman.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A. P.

Adhesion of high polymers. II. Procedure for the determination of the mutual adhesion of high polymers. A. I. Shapovalova, S. S. Voyutskii, and A. P. Pisarenko. *Colloid J.* (U.S.S.R.) 43, 475-83(1956)(English translation). —See *C.A.* 51, 1644d. B. M. R.

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PISARENKO, A.P.

4E1c
2MAY

[illegible] Properties of silicate(-filled) synthetic rubbers. A. P. PISARENKO, A. P. EMELYANOVA and [illegible]. Kauch. i Rezina, 1957, 16, No. 2, 6-12. Silicate-filled rubbers have high strength, approaching that attained by adding channel gas black to butadiene-styrene rubbers. It is possible to prepare from these rubbers coloured solid or microporous vulcanizates with higher strength properties and lower consumption of rubber. The combination of technological properties makes these rubbers attractive for the production of tyres and technical rubber articles. These rubbers can be used in compounds without thermal plasticization. The advantages of these rubbers to the national economy are stressed. They may be used in powdered form. On the basis of the positive results achieved with these rubbers, SKS-20-BS and SKS-30-A-BS, their full-scale production is recommended. There are 11 references.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A. P.

A Finishing oilcloth and leather substitutes. A. P. Pisarenko and A. H. Narinskaya. U.S.S.R. 104,213, Nov. 25, 1956. Oilcloth and leather substitutes having an oil, rubber, or polyvinylvinyl base are coated with polyamide resins to improve adhesion and water-resistance of the coatings; the polyamide resins are modified with p-butylphenol-HCHO resins. M. Hosch

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A. P.

2 may

√906. High temperature vulcanization of rubber articles. A. P. PISARENKO, V. I. ALEKSEENKO, and M. S. OLSHANECKII. *Legkaya Prom.*, 1955, No. 9, 18; *Transl. Cent. Liste Russ. Period.*, 1956, No. 82, 67. 3573

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A.P.

4110. [illegible] adhesion. [illegible] and A. P. [illegible] 1955, 105, [illegible], 1956, 59, 2782. The authors further [illegible] an adhesion theory presented by them in previous articles, this journal, 1952, abs., 4764; 1955, abs. 1811, 1865. According to their theory, adhesion is accompanied by a diffusion of the chain molecules of adhesives, or, when there is a noticeable swelling of the substratum, a diffusion of the substratum molecules as well as of the adhesive molecules, with a formation of a combination of the type of welds, with a gradual variation from one polymer to the other.

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Matte

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

ACCESSION NO: AP4017166 S/0138/64/000/002/0052/0053

AUTHORS: Shvetsov, V. A.; Frenkel', R. Sh.; Pisarenko, A. P.; Zalesskaya, A. D.

TITLE: The use of native clays as raw material for the rubber industry

SOURCE: Kauchuk i rezina, no. 2, 1964, 52-53

TOPIC TAGS: rubber, vulcanized rubber, filler, clay, brown clay, kaolin, physico-mechanical property, scorching, wear, tensile strength, stretch, modulus, deformation, SKS 30 synthetic rubber, SKN 26 synthetic rubber

ABSTRACT: The present study was undertaken to find out whether the abundant brown Khvaly*nsk clays of the Pochtar deposit in the vicinity of the Volga Chemical Industrial Combine could be substituted for kaolin as a filler for SKS-30 and SKN-26 rubber. The brown clay contains (in %) 54.6 SiO_2, 19.1 Al_2O_3, 8.7 Fe_2O_3, 3.4 CaO, and 3.9 MgO, while kaolin contains 46.5 SiO_2, 39.5 Al_2O_3, and no Fe_2O_3, CaO, or MgO.. The specific surface of the brown clay is 56.0 m^2/g as against 25.0 m^2/g for kaolin. The working of the standard rubber compounds containing either brown clay or kaolin was conducted on laboratory rolls, and the physical and mechanical properties of the obtained vulcanizates evaluated by standard techniques. It was found that in plasticity and resistance to scorching both clays were practically identical,

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ACCESSION NO: AP4017166

but the rate of vulcanization in the presence of brown clay was enhanced, requiring at 143C only 30 minutes as against 50 for kaolin, and the strength of the obtained vulcanizate was higher. However, it required nearly 70-80 parts by weight of the brown clay, as against 40 parts of kaolin, to bring about an optimal strength in the vulcanizate. It was also established that the vulcanizates containing the brown clay have a higher modulus index, a lesser degree of hysteresis, and a higher endurance under multiple deformation stress than kaolin-filled vulcanizates. Orig. art. has: 1 table and 2 charts.

ASSOCIATION: Volzhskiy filial nauchno-issledovatel'skogo instituta rezinovoy prom*shlennosti (Volga Branch of the Scientific Research Institute of the Rubber Industry)

SUBMITTED: 00 DATE ACQ: 23Mar64 ENCL: 00

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

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, Aleksandr Pavlovich; SAFRAY, Boris Aleksandrovich; PANOVA, A.V., retsenzent; TORMOZOVA, L.I., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Technology of the production of footwear rubber parts] Tekhnologiia proizvodstva obuvnykh rezinovykh detalei. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva legkoi promyshl. SSSR, 1956. 182 p. (MLRA 9:10)
(Shoe industry) (Boots and shoes, Rubber)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

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PISARENKO - A.P.

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M. A. YOUTZ
scopies

Role of diffusion in the mutual adhesion phenomena of high polymers. S. S. Voyutskii, A. I. Shapovalova and A. P. Pisarenko (Dokl. Akad. Nauk, SSSR, 1955, 105, 1000—1002). [illegible] and contact-potential theories of the mutual adhesion of high polymers are discussed and rejected. Adhesion is attributed to molecular diffusion, i.e., to mutual solution of the two polymers at the surface of contact. This supposition is borne out by the increase of adhesion energy as the curing temp. is raised (diffusion rate and mutual solubility would increase with rising temp.), and by the observation that the energy of adhesion increases (up to a certain limit) during a long period after the join. The authors' theory also accounts for the non-adhesion of vulcanized polymers.

F. W. KIRKBRIDE

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A.P.; ALEKSEYENKO, V.I.; OL'SHANETSKIY, M.S.

High temperature vulcanization of rubber articles. Leg.prom. 15 no.9:18-22 S '55. (MLRA 9:1)

(Vulcanization)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

VOYUTSKIY, S.S., SHAPOVALOVA, A.I., PISARENKO, A.P.

Role of diffusion in the mutual adhesion of high polymers. Dokl. AN SSSR 105 no.5:1000-1002 D '55. (MLRA 9:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut zamenitelej kozhi. Predstavleno akademikom V.A. Karginym.
(Polymers and polymerization) (Adhesion)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISACHENKO, A. P.

The reaction of trianone alcohols with acids. V. Ya. [illegible], A. I. Tolmachev, and A. P. Pisachenko (Kiev [illegible] Univ.). *Ukrain. Khim. Zhur.* [illegible] (1904) (in Russian); cf. *C.A.* 41, 3066f.—Treating MeCPh(OH)-CH_2N:NNHPh (I) with aq. H_2SO_4 and with AcOH, $EtCO_2H$, or EtOH in abs. Et_2O led in each case to the decompn. of the alc. to $MeCOCH_2Ph$ (II), $PhNH_2$, and N. I and β-naphthol in dry C_6H_6 gave, in addn. to II, 1-(β-naphthoxy)-2-phenyl-2-propanol, colorless leaflets, m. 73°, sol. in Et_2O, Me_2CO, petr. ether, and hot EtOH, insol. in H_2O. I was decomp. within 1 hr. when boiled in toluene, but did not decomp. when boiled 30 hrs. in Et_2O or C_6H_6. The following new trianone alcs. behaved similarly: p-MeC_6H_4-$CMe(OH)CH_2N$:$NNHC_6H_4Me$-p (III), m. 96-7° (from ligroine); the di(o-tolyl) isomer of III, yellow oil (dh) not cryst. on cooling; the bis-p-$MeOC_6H_4$ analog, $C_{18}H_{22}N_2O_2$, of III, colorless crystals, m. 180-1° (from C_6H_6); (p-MeC_6H_4)$_2$C(OH)CH_2N:$NNHC_6H_4Me$-p, colorless crystals, m. 165-7° (from ligroine). Gary Gerard

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PISARENKO, A.P.

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The role of diffusion in high-polymer mutual adhesion. S. S. Voyutskii, A. I. Shapovalova, and A. P. [illegible]. Dokl. Akad. Nauk S.S.S.R. 105, 1000-[illegible]. — The authors further elaborate an adhesion theory presented by them in a no. of articles (C.A. 40, 7358b; 48, 7969i; 50, [illegible]). According to their theory, adhesion is accompanied by a diffusion of the chain mols. of adhesives, or, when there is a noticeable swelling of the substratum, a diffusion of the substratum mols. as well as of the adhesive mols., with a formation of a combination of the type of welds, with a gradual variation from one polymer to the other.

W. M. [illegible]

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M.A. YOUTZ
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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

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

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

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A. P.

"Physicochemical Factors in the Processes of Vulcanization of Sodium-Butadiene Rubber." Sub 28 Jun 51, Inst of Physical Chemistry, Acad Sci USSR.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, A.P., professor, doktor khimicheskikh nauk; HEZNIKOVA, R.A., kandidat tekhnicheskikh nauk.

New type of glue for gluing polyisobutylene sheets to metal. Leg. prom. 14 no.10:23-26 O '54. (MLRA 7:11)
(Glue)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

NARINSKAYA, A.R.; PISARENKO, A.P.; ALEKSEYENKO, V.I.

Improving the properties of polyamides used as finishing coatings. Kozh.-obuv.prom. no.2:17-20 F '59. (MIRA 12:6)
(Resins, Synthetic) (Leather, Artificial)

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ACCESSION NR: AR5005850 S/0081/64/000/022/B061/B064

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B

SOURCE: Ref. zh. Khimiya, Abs. 22B459

AUTHOR: [illegible] A.E.; [illegible] A.P.

TITLE: A study of the structure of butadiene-styrene latex filled with chalk

CITED SOURCE: Nauchno-issled. in. Vses. n.-i. in-t plenok i iskusstv. kozhi, sb. [illegible], 74-79

TOPIC TAGS: synthetic rubber, butadiene styrene rubber, latex structure, latex film, latex wettability, latex filler, chalk filler, ammonium caseinate, calcium caseinate, [illegible] latex film, lamp black/SKS-30 latex

TRANSLATION: The structure of films of SKS-30 latex was studied by determining the kinetics of wetting and the extractibility of the water-soluble substances. Films having a thickness of 0.35-0.37 mm were prepared by drying at 20C and, in individual cases, were vulcanized for 30 minutes at 130C. For films containing 10% (based on the weight of the polymer) ammonium caseinate, equilibrium swelling was achieved after 192 hours, compared to 120 hours for vulcanized films containing ammonium caseinate, chalk, a [illegible]

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[redacted]

softening agent and a vulcanizing group, and 144 hours for non-vulcanized films. The absolute wettability of films containing chalk was significantly lower than that of those with lamp black. This lower wettability of films containing chalk is apparently due to the interaction of chalk and ammonium caseinate with the formation of hydrophobic calcium caseinate. In order to test this hypothesis, model systems of latex with calcium caseinate were prepared. The calcium caseinate was prepared by mixing the corresponding amounts of 10% ammonium caseinate and chemically pure CaO until formation of a homogeneous mass. The conditions under which the calcium caseinate was mixed with latex, as well as the concentration of the latex, had a marked effect on the aggregate stability of the latex stabilized with calcium caseinate. For films stabilized with calcium caseinate, equilibrium swelling was achieved after 24 hours. The absolute wettability of latex films containing calcium caseinate was significantly lower than that of films stabilized with ammonium caseinate, regardless of the concentration of calcium caseinate. An increase in the amount of calcium caseinate led to a decrease in the wettability of the films. Addition of chalk and a softening agent to the latex led to a decrease in the content of extractible substances. These ingredients apparently facilitate the formation of a closed film structure. I. Pil'menshteyn

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

KHOROSHAYA, Ye.S., KOR[illegible]OVA, K.[illegible], GEORGIYEV[illegible], [illegible], [illegible]

Express method for determining the degree of acetalation of rubber polyvinyl formal films. Kozh.-obuv. prom. 6 no.9 19-20 S '64. (MIRA [illegible])

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

NARINSKAYA, A.R., kand. tekhn. nauk; ISAREN KO, A.P., doktor khim. nauk

Changes in the coloring of latex coatings in the interaction of some ingredients of latex compounds. Nauch.-issl. trudy VNIIPIK no.14:69-75 '63. (MIRA 18:12)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

ABRAMOVA, V.V., starshiy nauchnyy sotrudnik; PLOTNIKOV, I.V., kand. tekhn. nauk; FREYDGEYM, K.I., mladshiy nauchnyy sotrudnik; PISARENKO, A.P., doktor khim. nauk, prof., PAVLOV, S.A., doktor tekhn. nauk, prof.

Manufacture of artificial suede type leather without salt washout. Nauch.-issl. trudy VNIIPIK no.14:156-163 '63. (MIRA 18:12)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

GEORGIYEVA, V.S.; PISARENKO, A.P.

Effect of the conditions of gelatinization on the properties of polychloroprene-polyvinylformaldehydr microporous films. Kozh.-obuv.prom. 6 no.1:31-34 Ja '64. (MIRA 17:4)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

AL'BAM, M.A.; PISARENKO, A.P.; LAZARYANTS. E.G.; Prinimali uchastiye: ALADINSKAYA, I.P.; VOLKOVA, S.A.; DYUNINA, V.G.; GROMOVA, V.A.; KOSMODEM'YANSKIY, L.V.; KOPYLOV, Ye.P.; ROKHMISTROVA, A.P.; SHUSHKINA, Ye.N.

High-styrene rubber mixtures for the manufacture of microporous non-shrinking rubbers. Kauch. i rez. 22 no.7:1-3 Jl '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.
(Rubber, Synthetic)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

GEORGIYEVA, V.S.; PISARENKO, A.P.; SHTARKH, B.V.

Modification of polymers as a method for the production of porous structures. Dokl. AN SSSR 151 no.3:634-637 Jl '53. (MIRA 16:9)

1. Predstavleno akademikom P.A.Rebinderom.
(Polymers) (Porous materials)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

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L 29999-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WW/RM

ACCESSION NR: AP4047875 S/0303/64/000/005/0012/0015

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27
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AUTHOR: Tsvetkova, N.A.; Pisarenko, A.P.

TITLE: The properties of polyesterurethan films at various temperatures

SOURCE: Lakokrasochny*ye materialy* i ikh primeneniye, no. 5, 1964, 12-15

TOPIC TAGS: polyesterurethane resin, toluylene diisocyanate, stress relaxation, methylethylketone, acetone, polymer stability, plasticity, artificial leather, cross linked structure, intermolecular bond

ABSTRACT: The stability, stress relaxation, elongation, equilibrium modulus, number of molecular segments and their weights were determined for a series of polyesterurethan resins. The resins were prepared by the reaction of polyester with toluylene diisocyanate at 70 - 80C, and were dissolved in acetone or methylethylketone for film casting. Films prepared from a resin which was synthesized at 80C in 30 min. possessed high stability. With an increase in temperature from 20 to 70C, these films showed a sharp decrease in stability (more than 80%). The stability of the films at 20C was dependent on the solvent used; at 70C this dependence was not observed. An increase in temperature on films cast

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L [illegible]
ACCESSION NR: AP[illegible]

2

[illegible] a decrease in the [illegible] value and an increase in plasticity. The dependence of properties and structure on temperature was also investigated for films cast from high viscosity solutions. It was noted that an increase in temperature up to 70C decreased film stability more than 90% in comparison to the stability at 20C. The equilibrium modulus and number of bonds between the polymer macromolecules were also decreased at this temperature. Films cast from high viscosity acetone solutions had a lower stability. This information is useful in selecting the optimum conditions for producing polyesterurethan resins for artificial leather finishing. "The polyester was synthesized by L.A. Datskevich at the MKhTI im. D.I. Mendeleyeva, for which the authors express their thanks." Orig. art. has: 2 tables, 2 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MT, OC

NO REF SOV: 011 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

L 18163-63

ACCESSION NR: AP3004250 S/0138/63/000/007/0001/0003

AUTHORS: Al'bam, M. A.; Pisarenko, A. P.; Lazaryants, E. G.

4/5

TITLE: High-styrene rubber for nonshrinking microporous vulcanizates

SOURCE: Kauchuk i rezina, no. 7, 1963, 1-3

TOPIC TAGS: polymerization, copolymer , vulcanized rubber, shrinkage, polystyrene

ABSTRACT: The objective of the present work was the improvement of microporous rubber produced at the Kuyby*shevskiy zavod SK (Kuyby*shev Plant SK) for shoe soles. This rubber shrank excessively unless subjected to heat treatment. It was decided to replace the polystyrene component of the earlier microporous rubber by a copolymeric resin containing 85%, 90%, and 95% polystyrene. The vitrification temperature was found to increase with the percentage increase of polystyrene in the resin. A pilot plant batch of synthetic rubber with 95% polystyrene resin, calculated to contain 50% polystyrene, gave within 30 days only a 0.73% shrinkage, as against 4.64% for synthetic rubber as such. It was also observed that the use of a polymerization regulator (such as diperoxide) during the polymerization process had a detrimental effect on the shrinkage of the rubber. The extent of polystyrene polymerization as well as the temperature under

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L 18163-63

ACCESSION NR: AP3004250

which the process was conducted also affect the shrinkage, 100% for the former and 5C for the latter being optimal. I. P. Aladinskaya, S. A. Volkova, V. G. Dyunina, (VNIIPIK), V. A. Gromova, L. V. Kosmodem'yanskiy, E. P. Kopy*lov, A. P. Rokhmistrova, and Ye.N. Shushkina, (NIIMSK) participated in the work. Orig. art. has: 2 charts and 2 tables.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut plenochny*kh materialov i iskusstvennoy kozhi i nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka (All-Union Scientific Research Institute of Sheet Materials and Artificial Leather. Scientific Research Institute of Monomers for Synthetic Rubber)

SUBMITTED: 00 DATE ACQ: 21Aug63 ENCL: 00

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

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

LITNINENKO, A.G.; NOVIKOV, V.S.; PISARENKO, A.P.

Masterbatches of carbon black rubber for shoe soles. Kozh.-obuv. prom. 5 no.5:20-24 My '63. (MIRA 16:5)
(Boots and shoes, Rubber) (Carbon black)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

AL'BAM, M.A., kand.tekhn.nauk; DYUNINA, V.G., inzh.; PISARENKO, A.P., doktor khimicheskikh nauk, prof.

Ways of reducing the shrinkage of light-weight microporous sole rubbers. Izv.vys.ucheb.zav.; tekh.leg.prom. no.1:35-44 '62. (MIRA 16:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy khozhi (for Al'bam, Dyunina. Zaochnyy institut sovetskoy torgovli (for Pisarenko). Rekomendovana kafedroy khimii Zaochnogo instituta sovetskoy torgovli.
(Rubber)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

L 13824-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS/ES(w)-2 AFFTC/AFGC/ASD/ESD-3/SSD
Pg-4/Pc-4/Pr-4/Pab-4 RM/WW S/0020/63/151/003/0634/0637 92
ACCESSION NR: AP3003862 85

AUTHOR: Georgiyeva, V. S.; Pisarenko, A. P.; Shtarkh, B. V.

TITLE: Modification of polymers—a technique for obtaining porous structures

SOURCE: AN SSSR. Doklady*, v. 151, no. 3, 1963, 634-637

TOPIC TAGS: polychloroprene, poly(vinyl formal), chloroprene, vinyl formal, poly(vinyl alcohol), condensation structure formation, latex, polychloroprene latex, acetalization, gel, formaldehyde, acid catalyst, gelation, L-4, porous film, porous membrane, porous structure, polar polymer, nonpolar polymer, condensation network, coagulation network, synthetic leather, synthetic fiber

ABSTRACT: Polychloroprene-poly(vinyl formal) porous films have been prepared by the technique of condensation-[network-]structure formation (N. V. Mikhaylov and P. A. Rabinder, Koll. zhurn., 18, no. 2, 107 (1955)). A small [unspecified] amount of poly(vinyl alcohol) (PVA) in aqueous solution was added to polychloroprene (PCP) latex. The PVA formed a coagulation network, and a gel resulted. Acetalization of a film of the gel with formaldehyde in the presence of an [unspecified] acid [catalyst] resulted in a stiff condensation network of poly(vinyl formal) (PVF), forming a porous structure. The critical factors

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L 13824-63

ACCESSION NR: AP3003862

in this process were component ratio, gelation time, and degree of dehydration prior to acetalization and acetalization conditions. The porosity, strength, and elasticity of the porous structure can be controlled by varying gelation time. The degree of acetalization is greatly affected by the temperature and time of acetalization and by the type and concentration of acid [catalyst] used [data not given]. Films based on L-4 latex and PVA and having a good microporous structure were obtained. The films demonstrated the following wide range of properites: apparent specific gravity, 0.40—1.20 g/cm³; [water] vapor permeability, 0.05—710 mg/cm² hr; water absorption, 2 hr, 3—50%, 24 hr, 3—60%; tensile strength, 10—80 kg/cm²; and elongation-at-break, 100—900%. Study of the solubility of the films in water, glacial acetic acid, and chloroform revealed that 50% of the PVP is not extracted by the acid, even at 61.2—70C, suggesting that the network structure is due to bonds stronger than Van der Waals forces. IR spectra were compared for PVP and for PCP-PVP gels swelled in chloroform after prolonged high-temperature extraction in glacial acetic acid. A substantial number of bands characteristic of PVP were also observed in the gels, confirming the feasibility of modifying PCP by formation of a PVP phase in the system. The equilibrium modulus of PCP-PVP films (13.9 kg/cm²) sharply exceeded that of PCP-PVA (4.90) or PCP (2.15) films. It is stressed that in the manufacture of synthetic leather and fibers, the condensation-[network-]structure

Card 2/3

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ACCESSION NR: AP3005862

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formation technique makes it possible not only to produce porous structures, but also to combine polar and nonpolar polymers and to vary properties according to the desired characteristics of the end product. "The authors express their profound gratitude to P. A. Rebinder, A. B. Taubman, I. N. Vlodavets, Ya. M. Zubko, M. M. Bernshteyn, and M. P. Litovchenko for giving a number of valuable opinions during the discussion of the results." Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 08Feb63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: CH, MA NO REF SOV: 007 OTHER: 001

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

L 13824-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS/ES(w)-2 AFFTC/APGC/ASD/ESD-3/SSD
Pg-4/Po-4/Pr-4/Pab-4 RM/WW
ACCESSION NR: AP3003862 S/0020/63/151/003/0634/0637

92
85

AUTHOR: Georgiyeva, V. S.; Pisarenko, A. P.; Shterin, B. V.

TITLE: Modification of polymers—a technique for obtaining porous structures

SOURCE: AN SSSR. Doklady*, v. 151, no. 3, 1963, 634-637

TOPIC TAGS: polychloroprene, poly(vinyl formal), chloroprene, vinyl formal, poly(vinyl alcohol), condensation structure formation, latex, polychloroprene latex, acetalization, gel, formaldehyde, acid catalyst, gelation, L-4, porous film, porous membrane, porous structure, polar polymer, nonpolar polymer, condensation network, coagulation network, synthetic leather, synthetic fiber

ABSTRACT: Polychloroprene-poly(vinyl formal) porous films have been prepared by the technique of condensation-[network-]structure formation (N. V. Mikhaylov and P. A. Rebinder, Koll. zhurn., 18, no. 2, 107 (1955)). A small [unspecified] amount of poly(vinyl alcohol) (PVA) in aqueous solution was added to polychloroprene (PCP) latex. The PVA formed a coagulation network, and a gel resulted. Acetalization of a film of the gel with formaldehyde in the presence of an [unspecified] acid [catalyst] resulted in a stiff condensation network of poly(vinyl formal) (PVF), forming a porous structure. The critical factors

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

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ACCESSION NR: AP3003862

in this process were component ratio, gelation time, and degree of dehydration prior to acetalization and acetalization conditions. The porosity, strength, and elasticity of the porous structure can be controlled by varying gelation time. The degree of acetalization is greatly affected by the temperature and time of acetalization and by the type and concentration of acid [catalyst] used [data not given]. Films based on L-4 latex and PVA and having a good microporous structure were obtained. The films demonstrated the following wide range of properites: apparent specific gravity, 0.40—1.20 g/cm³; [water] vapor permeability, 0.05—710 mg/cm² hr; water absorption, 2 hr, 3—50%, 24 hr, 3—60%; tensile strength, 10—80 kg/cm²; and elongation-at-break, 100—900%. Study of the solubility of the films in water, glacial acetic acid, and chloroform revealed that 90% of the PVP is not extracted by the acid, even at 61.2—70C, suggesting that the network structure is due to bonds stronger than Van der Waals forces. IR spectra were compared for PVP and for PCP-PVP gels swelled in chloroform after prolonged high-temperature extraction in glacial acetic acid. A substantial number of bands characteristic of PVP were also observed in the gels, confirming the feasibility of modifying PCP by formation of a PVP phase in the system. The equilibrium modulus of PCP-PVP films (13.9 kg/cm²) sharply exceeded that of PCP-PVA (4.90) or PCP (2.15) films. It is stressed that in the manufacture of synthetic leather and fibers, the condensation-[network-]structure

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

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ACCESSION NR: AP3003862

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formation technique makes it possible not only to produce porous structures, but also to combine polar and nonpolar polymers and to vary properties according to the desired characteristics of the end product. "The authors express their profound gratitude to P. A. Rebinder, A. B. Taubman, I. N. Vlodavets, Ya. M. Yubko, M. M. Bernshteyn, and M. P. Litovchenko for giving a number of valuable opinions during the discussion of the results." Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 08Feb63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: CH, MA NO REF SOV: 007 OTHER: 001

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

LITVINENKO, A.G.; NOVIKOV, V.S.; PISARENKO, A.P.

Carbon black and rubber mixture batches in sheet form for footwear soles. Kozh.-obuv.prom. 5 no.2:22-25 F '63. (MIRA 16:5)
(Leather, Artificial)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

SHTARKH, B.V. [illegible] V.A., [illegible] A.P.

Effect of thermal treatments on the dispersity of synthetic latexes. [illegible]
Kaz. [illegible] 7 8-10 Jl [illegible].

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstv onoy kozhi.
(Rubber, Synthetic)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

KHOROSHAYA, Ye.S.; KOVRIGINA, G.I.; NARINSKAYA, A.R.; PISARENKO, A.P.

Rapid sulfite micromethod for determining the degree of latex film vulcanization. Kauch. i rez. 20 no.12:40-42 D '61. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi.
(Latex) (Vulcanization)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

PISARENKO, Aleksandr Pavlovich, prof.; POSPELOVA, Kseniya Aleksandrovna, dots.; YAKOVLEV, Aleksandr Georgiyevich, dots.; VOYUTSKIY, S.S., prof., retsenzent; NAZAROV, V.I., prof., retsenzent; TAULMAN, S.S., prof., retsenzent; BARAMBOYM, N.K., prof., retsenzent; STUKOVNIN, I.D., red. izd-va; YEZHOVA, L.L., tekhn. red.

[Course in colloid chemistry] Kurs kolloidnoi khimii. Moskva, Gos.izd-vo "Vysshaia shkola," 1961. 241 p. (MIRA 14:12)
(Colloids)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

SHVETSOV, V.A.; NOVIKOV, A.S.; PISARENKO, A.P.

Properties of reinforced aluminate-nitrile rubbers. Kauch.i rez. 19 no.4:12-17 Ap '60. (MIRA 13:12)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti i Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi.
(Rubber, Synthetic)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

SHVETSOV, V.A.; PISARENKO, A.P.; NOVIKOV, A.S.

Nature of the bonding in the system rubber - filler. Koll. zhur. 22 no. 6:743-747 N-D '60. (MIRA 13:12)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti, Moskva.

(Alumina) (Rubber, Synthetic) (Fillers (In paper, paint, etc.)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

SHVETSOV, V.A.; NOVIKOV, A.S.; PISARENKO, A.P.

Study of the structure of reinforced butadiene-nitrile rubber vulcanizates by the elongation method. Vysokom. soed. 2 no. 11:1608-1612 N '60. (MIRA 13:11)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Rubber)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

87768

11.2210
15.9200

2109.2209 1429

S/069/60/[illegible]
B013/B0[illegible]

AUTHORS: Shvetsov, V. A., Pisarenko, A. P., and N[illegible]ik v. A. S.

TITLE: Problem of Investigating the Bond Character in the System Rubber - Filler

PERIODICAL: Kolloidnyy zhurnal, [illegible], Vol. [illegible], N[illegible], pp. [illegible]

TEXT: The authors applied the method devised by B. Dogadkin and co-workers (Refs. 1 and 2) to study the dispersion of calcium silicate an aluminum hydroxide in rubber mixtures and in vulcanized rubber. The present paper reports the results with respect to aluminum hydroxide. The partial or complete extraction of aluminum hydroxide from the rubber by boiling in weak NaOH solutions was shown to be possible. The [illegible] extraction time (2 hours) was found to correspond to the optimum filling of 60 parts by weight. In this case a maximum development of structure occurs with a markedly pronounced continuous phase of the filler, which facilitates the penetration of the solvent into the rubber. With poor filling, the chain structure of the filler is less pronounced, and extraction is more time-consuming. This rule also holds for [illegible]

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87768

Problem of Investigating the [illegible] Characteristics in the System Rubber - Filler

[illegible]

rubbers (binary system rubber - [illegible]). The extraction in this case, however, proceeds more slowly than in rubbers that [illegible] which is due to a denser structure and a higher number of rubber - [illegible] bonds. On incorporation of aluminum hydroxide during the [illegible] compact rubbers were obtained than on incorporation of the filler into latex. The filler incorporated during rolling was found not to form [illegible] structures. The authors further studied the effect of stearin [illegible] sion medium on the properties of the resultant rubber. The extraction of aluminum hydroxide was found to be accelerated by the introduction of stearin. In vulcanized rubbers the aluminum hydroxide extraction takes place in the same way as in non-vulcanized systems. The comparatively easy extraction of aluminum hydroxide from rubber mixtures and [illegible] rubber indicates that prevalently [illegible] bonds, presumably [illegible] adsorption type, are formed between the individual filler and [illegible] rubber. Stable chemical bonds are either not formed at all or [illegible] low extent. After incorporation of aluminum hydroxide into the [illegible] state and after subsequent extraction of this filler the rubbers [illegible] properties which differ from the original ones. The mixture [illegible] the basis of extracted (KH-26, SKN-26) rubber gave much [illegible]

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Problem [illegible] in the System R[illegible] - F[illegible]

rubbers than mixtures [illegible] SKN-[illegible] strength [illegible] in the former case [illegible] kg/cm² [illegible] in the latter case [illegible] kg/cm² [illegible] were dried at [illegible]0°C. The higher [illegible] obtained from rubber [illegible] structure formation [illegible] the formation of direct bonds [illegible] heat treatment of the system rubber - [illegible] There are [illegible] 9 references: [illegible] Soviet, [illegible] German, [illegible]

ASSOCIATION [illegible] Moskva (Scientific Research Institute [illegible] Industry, Moscow)

SUBMITTED [illegible]

Card [illegible]

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

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SKN SKN SKN

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

Study of the Structure of Vulcanizates [illegible]
Reinforced Butadiene Nitrile Rubbers [illegible]
Stretching

Calculations were made [illegible]
$\gamma = \alpha S/G^{1/3}$ [illegible] S [illegible]
[illegible]

Table [illegible]

Composition of rubbers in parts by volume			
Natural rubber with 28 [illegible] black	[illegible]	[illegible]	[illegible]
SKN-26 with 28 [illegible] black	[illegible]	[illegible]	[illegible]
SKN [illegible] with [illegible] black	[illegible]	[illegible]	[illegible]
SKN [illegible] with 28 Al OH [illegible]	[illegible]	[illegible]	[illegible]
SKN [illegible] with [illegible] Al OH [illegible]	[illegible]	[illegible]	[illegible]

Basing on these data, the following [illegible]
[illegible] hard equation is also applicable [illegible]

Card 4/[illegible]

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

85411

Study of the Structure of Vulcanizates of Reinforced Butadiene Nitrile Rubbers by Stretching

S/[illegible]/60/002/[illegible]
B004/B[illegible]

filled with channel black or aluminum hydroxide. Vulcanizates from butadiene nitrile rubber filled with aluminum hydroxide are [illegible] a higher degree than the same rubbers filled with channel [illegible]. Natural rubber has more primary bonds while SKN [illegible] filled with channel black but especially with aluminum hydroxide has [illegible] bonds. The structure of the vulcanizates therefore differs. G. A. Pa[illegible]keyev is mentioned. There are [illegible] figures, [illegible] tables and [illegible] 2 Soviet, 2 US, 2 British and German.

ASSOCIATION: Nauchno-issledovatel'skiy institut [illegible] promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: February 2, 1960

Card 3/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

SHVETSOV, V.A., PISARENKO, A.P., SHTARKH, B.V., NOVIKOV, A.S.

Electron microscopic study of the structures of reinforced rubbers. Koll. zhur. 22 no.2:233-236 Mr-Ap '60. (MIRA 13:8)

1. Nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi i Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti, Moskva.
(Rubber--Research)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341020010-9

83837

15.9200 also 2209

S/138/60/000/004/001/008
A051/A029

11.2220

AUTHORS: Shvetsov, V. A., Novikov, A. S., Pisarenko, A. P.

TITLE: The Properties of Filled Aluminate-Nitrile Rubbers

PERIODICAL: Kauchuk i Rezina, 1960, No. 4, pp. 12 - 17

TEXT: The results of the development of a method for producing nitrile rubbers filled with aluminum hydroxide in the latex (called aluminate-nitrile rubber) are given. With this method it is possible to produce vulcanizates with high physico-mechanical properties. No complex apparatus is necessary and the aluminate-nitrile rubbers have a higher mechanical resistance than the silicate-nitrile rubbers. The СКН-18 (SKN-18) and the СКН-26 (SKN-26) latexes were used in the production of the aluminate-nitrile rubber. Vulcanizates produced from aluminate-nitrile rubber have a high elasticity. The specific elongation in SKN-26 reaches 1,000 - 1,100%. Rubbers with aluminum hydroxide obtained from the latex, as well as that with introduction on the rollers have an elevated residual elongation and a high resistance to wear and tear. The resistance to repeated bending and crack growth is higher in vulcanizates with aluminum hydroxide introduced into the latex

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The Properties of Filled Aluminate-Nitrile Rubbers

compared to introduction on the rollers only. In order to study the resist ance of the rubber to thermal effect, samples of various vulcanizates were subjected to aging in a thermostat at temperatures [illegible], beginning with 12 hours and lasting up to 10 days. The best results showed rubbers with aluminum hydroxide introduced on the rollers. Aluminate nitrile rubbers can be stored for a long time without changing their properties. The authors attempted to discover why the filler obtained in the latex has a higher strengthening power as compared to the filler produced separately and intro duced into the rubber on the rollers. They also tried to determine the com parative properties of mineral fillers of the potassium silicate and alumin um hydroxide types, e.g., gaseous channel carbon black. The structuralizing role played by the fillers was investigated experimentally and found to cor respond favorably with previous data (Refs. 2 - 5). The experiments also showed that the high strengthening ability of calcium silicate and aluminum hydroxide obtained in the latex can be explained by the high dispersion of the particles of the filler and good distribution of the filler in the rubber mass as well as the absence of aggregation of the particles, formation of chain structures by the filler and the ability of the filler to form a bond

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The Properties of Filled Aluminate-Nitrile Rubbers

of the adsorption type with the rubber. The experimental data also proved that the presence of the SO_4 group in the molecule does not affect the strengthening ability of aluminum hydroxide produced in the latex, contrary to other opinions. The SO_4 group can have an effect on the crystallization process which takes place when the filler is produced outside of the latex and, therefore, on the structure and dispersion of the filler and, thus, in directly on the strengthening ability of the latter. The method developed for producing aluminate-nitrile rubbers has great significance for the Soviet Rubber Industry, since it lowers the energy consumption, the time needed to produce the mixtures and improves the productivity of the mixing apparatus. The rubber produced in the form of chunks enables one to automate the weighing and loading processes during mixing. It also enlarges the assortment of the different rubbers used in the manufacturing of oil resistant and thermo resistant rubber products. Finally, this method replaces the use of scarce carbon black, since the aluminate-nitrile rubber yields vulcanizates similar in their properties to that of the vulcanizates on a gaseous carbon black base. There are 6 tables, 1 figure and 10 Soviet references.

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The Properties of Filled Aluminate-Nitrile Rubbers

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti i Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi (Scientific Research Institute of the Rubber Industry and All-Union Scientific Research Institute of Film Materials and Synthetic Leather)

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PISARENKO, A.P.; SHAPOVALOVA, A.I.; VOYUTSKIY, S.S.

Adhesion of high polymers. Part 4: Effect of mechanical factors on high polymer adhesion. Koll.zhur. 22 no.1:57-62 Ja-F '60. (MIRA 13:6)

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(Adhesion) (Polymers)

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AUTHORS: Shvetsov, V. A., Pisarenko, A. P., Novikov, A. S.

TITLE: An Investigation Into the Properties of Filled Nitrile Rubbers Communication 1. The Properties of Filled Silicate-Nitrile Rubbers 15

PERIODICAL: Kauchuk i Rezina, 1959, No. 12, pp. 4-8

TEXT: At present two types of powdered silica gel are manufactured in the Soviet Union, viz. soft and hard silica gel, imparting different properties to the rubber. It is further stated that powdered silica gel is irreplaceable as an accelerator in the production of colored rubber based on synthetic rubbers with high mechanical indices and has many advantages over the carbon blacks. One of the most popular types of silica gel is aerosil, which is just as active as any carbon black. It is pointed out that the Soviet rubber industry lacks sufficient quantities of the silica gel accelerators and the available types have some serious disadvantages due to the backward production methods used. Their quality is not homogeneous. The necessity of producing filled rubbers based on synthetic raw material by some other means is pointed out. A short survey is given

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An Investigation Into the Properties of Filled Nitrile Rubbers.
Communication 1. The Properties of Filled Silicate-Nitrile Rubbers

of the methods recently used for this purpose. The All-Union Scientific Research Institute of Film Materials and Artificial Leather (VNIIPIK) developed in 1951-1953 a method for the production of filled butadiene-styrene rubbers, using silicates of various metals obtained in the latex as fillers. The CKH-18 (SKN-18), CKH-26 (SKN-26) and CKH-40 (SKN-40) type butadiene-nitrile rubbers are used in the rubber industry for the production of oil-resistant rubber. The authors were particularly interested in determining the possibilities of producing oil-resistant and heat-resistant butadiene-nitrile rubbers, filled with silicate fillers during the latex stage. These rubbers were named silicate-nitrile rubbers. It was shown that the strength of the rubber increases considerably when the filler is introduced in the latex stage, and much less so, when introduced on the rollers. This is true even for small quantities of the filler such as 20 weight parts of filler to 100 weight parts of the rubber. For greater amounts of filler, e.g. 60 weight parts of filler to 100 weight parts of rubber the relative elongation is 575-674%. The high structuralizing properties of the silicate fillers obtained in the latex can be seen from the hardness determination according to Defoe. The mechanical properties of the

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