FRENKEL', P.M.; ZASLAV, M.L.

[Planning of industrial enterprises] Proektirovaniie promyshlennykh predpreiatji. M.L.Zaslav. M, Gos.izd-vo lit-ry po stroitel'stvu i arkhitekture, 1952 (MLRA 8:5)
(Factories)

FRENKEL', V.F.,

SHERMAN, L.N., laureat Stalinskoy premii, arkhitektor; OVSYANKIN, V.I., laureat Stalinskoy premii, arkhitektor; FRENKEL', P.M., inzhener; PERSON, M.N., tekhnicheskiy redaktor.

[Asbestos cement enclosure sheets for industrial buildings] Ograzhdaiushchie konstruktsii iz asbestotsementnykh listov dlia promyshlennykh zdanii. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1952. 326 p. [Microfilm] (MLRA 7:12)
(Asbestos cement)

KOZLOV, V. A.; FRENKEL', P. M.; [illegible], K. S.; Engs.

Foundations

Problems of laying and of planning industrial construction of rolling mill foundation Stroi. prom. 31, No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

FRENKEL', P. M.

"Design and Structure of Uninsulated Sidings of Industrial Buildings Made of Corrugated Asbestos Cement Sheets." Cand Tech Sci, Central Sci Res Inst of Industrial Structures, Moscow, 1954. (RZhMekh, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

FRENKEL', P., redaktor; DAKHNOV, V.S., tekhnicheskiy redaktor

[redacted]

[Production norms for engineering plans paid on a piece work basis] Normy vyrabotki na proektnye raboty, oplachivaemye sdel'no. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture. Pt. 31. [Planning the organization of structural assembly operations and special steel structural elements] Proektirovanie organizatsii stroitel'no-montazhnykh rabot i spetsial'nykh stal'nykh konstruktsii. 1954. 101 p. (MLRA 8:3)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva.
(Wages) (Labor productivity) (Construction industry)

FRENKEL', P.M., inzhener.

Planning and constructing the garage facilities and parking lots of a machine-tractor station. Stroi.prom. 32 no.9:38-42 S '54. (Machine-tractor stations) (MLRA 7:11)

FRENKEL', P.M., inzhener; SHISHKIN, R.G., inzhener.

General design for foundations under steel rolling machinery.
Bet. i shel.-bet. no.8:287-294 N '55. (MLRA 9:1)

(Rolling mills) (Foundations)

FRENKEL', P.M., inzhener.

Precast reinforced concrete elements for industrial buildings.
Stroi.prom. 33 no.12:17-26 D '55. (MLRA 9:3)
(Precast concrete construction)

FRENKEL', Pavel Moiseyevich, kand. tekhn. nauk; SNITKO, I.K., doktor tekhn. nauk, nauchnyy red.; BORODINA, red. izd-va; EL'KINA, E.M., tekhn. red.

[Design of building structures for dynamic load] Raschet stroitel'nykh konstruktsii na dinamicheskuiu nagruzku. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroitel'nym materialam, 1958. 134 p. (Vibration) (Structures, Theory of) (MIRA 11:7)

CESTELLI GUIDI, Carlo; FRENKEL', P.M., red.

[Prestressed concrete] Predvaritel'no napriazhennyi zhelezobeton. Obshchaia red. P.M.Frenkelia. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1960. 467 p. (MIRA 15:5)
(Prestressed concrete)

FRENKEL, P.M.; AYZENBERG, Ya.M.; BAZAROV, A.R.; PISHCHIK, M.A.; CHETYRKINA, V.G.; SHISHKIN, R.G.; KOSENKO, I.S.; RUBINCHIK, M.I.; AVRAMENKO, V.N.; ALEKSANDROV, M.M.; VASIL'YEV, V.A., red.

[Use of prestressed reinforced concrete in foreign countries] Primenenie predvaritel'no napriazhennogo zhelezobetona za rubezhom. Moskva, Stroiizdat, 1964. 85 p. (MIRA 17:6)

FRENKEL', P. Ya. Cand. Tech. Sci.

Dissertation: "Dependence of the Tanning Rate on the Condition of Hide Tissues." Moscow Technological Inst of Light Industry imeni L. M. Kaganovich, 13 Feb 47.

SO: Vechernyaya Moskva, Feb, 1947 (Project #17836)

CA FRENKEL, Ya.

29

Increase in permeability of unhaired skin upon dehydration. P. Ya. Frenkel and A. N. Mikhailov. *Izgbyt Prom.* 11, No. 6, 43 (1951). Flow of liquid through unhaired skin treated with dehydrating salts or pickling soln., as detd. with the aid of the Poiseuille equation for flow through capillaries, indicates that flow is chiefly through pores having a radius of 1–20 μ. Pores with a radius greater than 1 μ are absent in unhaired skin swelled with water.
B. Z. Kamich

FRENKEL', P.Ya., kandidat tekhnicheskikh nauk; MIKHAYLOV, A.N., professor.

Use of polyamides in the quantitative determination of tannins and their substances. Leg.prom.16 no.12:40-42 D '56. (MLRA 10:2)
(Amides) (Tannins)

Distrs 1;E2c(j)

Sorbent for the quantitative determination of tannins
P. Ya. Frenkel and A. N. Mikhailov. U S S R 105 764
Aug. 25, 1957. A powd. sorbent for use in the analysis of tan. ing agents as well as industrial liquors is obtained by the partial hydrolysis of the acetal. polyamide [illegible] lowed by recrystn

GOLUBEVA, S.K., kand.tekhn.nauk; KRASUKHIN, M.N., kand.tekhn.nauk; KURAYTIS, S.A., kand.tekhn.nauk; TOPOROVSKAYA, Kh.S., kand.tekhn. nauk; FRENKEL', P.Ya., kand.tekhn.nauk; KORZINA, Ye.S., mladshiy nauchnyy sotrudnik; FILIPPOVA, N.B., mladshiy nauchnyy sotrudnik

Works of the Central Scientific and Technical Institute of the Leather and Footwear Industry in the field of tanning materials. Nauch.-issl. trudy TSNIKP no. 30:27-46 '59. (MIRA 14:5)
(Tanning materials)

5.3610

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SOV/80-32-10-26/51

AUTHORS: Frenkel', P. Ya., Mikhaylov, A. N.

TITLE: Polyamide Powder-Form Absorbents for the Determination of Tannides

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp 2283-2290 (USSR)

ABSTRACT: A new type polyamide absorbent and a new analytical method for the quantitative determination of tannides and syntans were developed by the Central and the Ukrainian Scientific Research Institutes of the Leather-Footwear Industry (TsNIKP and UkrNIKP, respectively) as reported by the authors previously (Nauchno-issled. tr. TsNIKP, 1956, Nr 26, p 26). The absorbent was obtained in the form of a highly dispersed powder by direct reprecipitation of capron. The size of its particles was beyond the resolving power of optical microscope; the electron microscope type UM-100 revealed that their diameter did not exceed a few microns. Polyamide absorbents listed in foreign literature were obtained in lump form and required grinding in ball mills which reduced their

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Polyamide Powder-Form Absorbents for the Determination of Tannides

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absorbing properties, especially with respect to syntans. The molecular weight of the new absorbents was from 4,570 to 6,600 depending on the duration and temperature of the hydrolysis. The new analytical method was based on the high activity of the new absorbent which strongly absorbed vegetable tannides as well as syntans, such as PL, SPS, Syntan Nr 4, and MPK amphoteric syntan, all of which contain OH and HSO_3 active groups; the absorption of accessory syntans AN and NK (sulfoaromatic acids of anthracene and naphthalene, respectively) was weaker as they contained only SO_3H active groups. It was determined that the optimum moisture content of the absorbents under industrial analysis conditions is 20 $\pm$ 2%. Absorbents with high absorbing power were obtained from acid-soluble capron as well as from modified resins obtained on polycondensation of caprolactam with AG salt or AZG salt (salts of hexamethylenediamine and adipic and azelaic acids). The optimum hydrolysis temperature was 25 $\pm$ 3°. The new absorbents can be used successfully in chromatographic columns for the fractional separation of

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Polyamide Powder-Form Absorbents for the Determination of Tannides

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tanning solutions, technical phenolic mixtures, for the separation of substances containing phenolic hydroxyls from sulfonic acids (lignosulfonic, sulfoaromatic, and other acids), and generally in analytical and applied chemistry. A. L. Zaydes made microphotographs of the absorbents with an electron microscope; the determination of the optimum moisture content was made by Yu. B. Kavkazov and Z. A. Shilova. There are 5 tables; 1 figure; and 9 references, 1 U.S., 2 German, 6 Soviet. The U.S. reference is: J. Pol. Sc., 12, 316 (1954).

SUBMITTED: March 10, 1958

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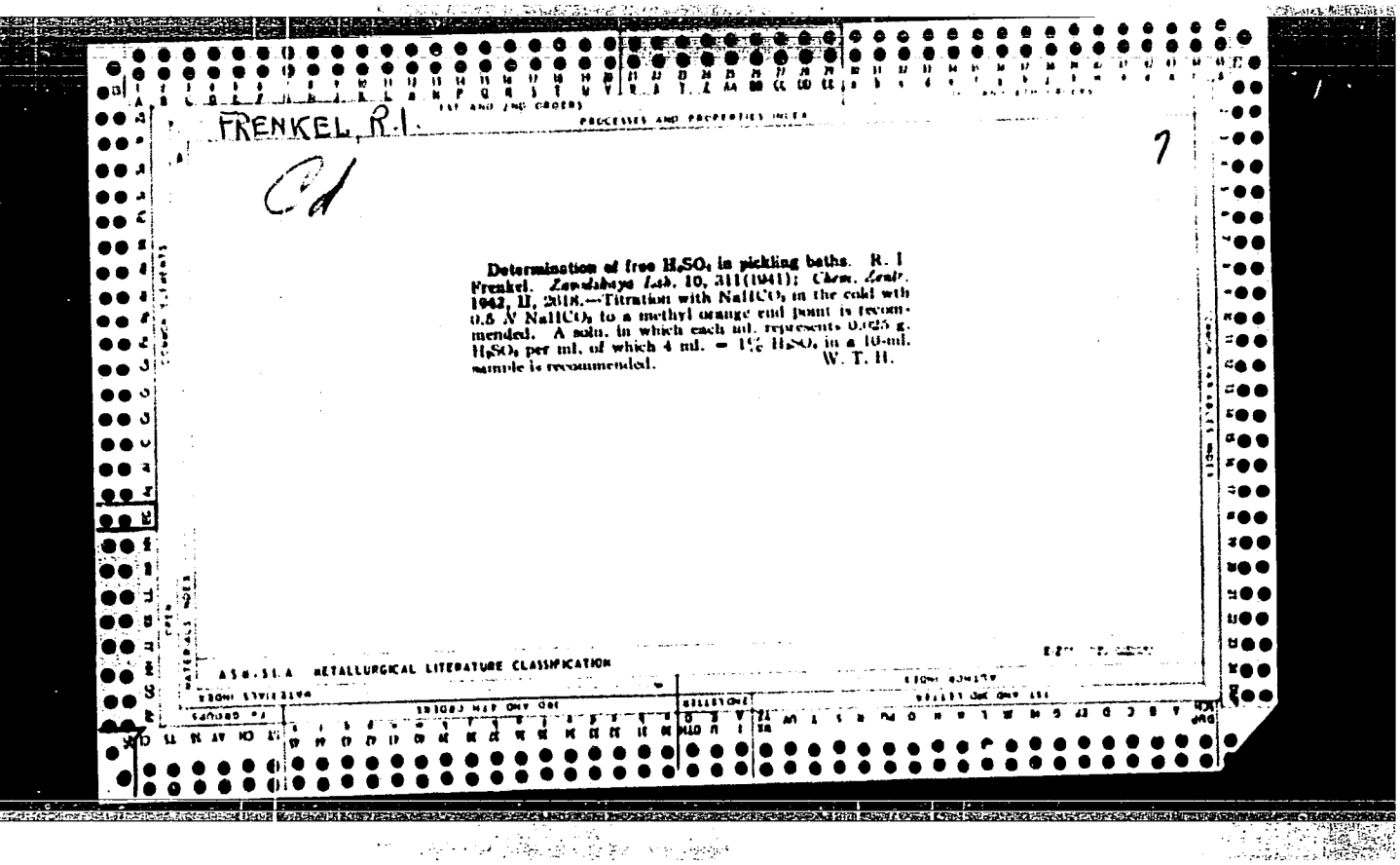
FRENKEL', P.Ya.; KRASUKHIN, M.N.; VOLKOV, N.V.; KARPMAN, M.I.; MAYOROVA, Ye.I.

Using the ion exchange method for refining tanning bark extracts. Kozh.-obuv.prom. 2 no.7:28-30 Jl '60. (MIRA 13:8)
(Tanning materials) (Ion exchange)

FRENKEL, R.

"An aeroplane guided by remote control" p. 137 (Skrzydla I Motor, Vol. 8, no. 9, Mar 53, Warszawa)

SO: Monthly List of East European Accessions, Vol 2 No 9 Library of Congress Sept 53 Uncl



FRENKEL, R. I.

Cd

7

Determination of free H_2SO_4 in pickling baths. R. I. Frenkel. *Zavodskaya Lab.* 10, 311(1941); *Chem. Zentr.* 1942, II, 2018.—Titration with $NaHCO_3$ in the cold with 0.5 *N* $NaHCO_3$ to a methyl orange end point is recommended. A soln. in which each ml. represents 0.025 g. H_2SO_4 per ml. of which 4 ml. = 1% H_2SO_4 in a 10-ml. sample is recommended. W. T. H.

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

Frenkel', R.I.

AUTHORS: Bayev, F.K., Frenkel', R.I., Storozhenko, Z.I. 32-12-11/71

TITLE: The Determination of Thiosulphate and Rhodanide in the Troughs for the Thermal Sulfonation of Metals (Opredeleniye tiosul'fatov i rodanidov v vannakh dlya termicheskogo sul'fidirovaniya metallov).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1428-1429 (USSR)

ABSTRACT: In the process of the thermal sulfonation of iron metals sulphides, half-sulphides, sulphates, and a small quantity of sulphur are formed and accumulate in the troughs. For the determination of the thiosulphide content (in the USSR) iodometrical methods are employed. With respect to the determination of rhodanide an experiment was described by this paper, in which the application of the bromine-iodometric method according to Shulek (Ref. 3 is said to give too low results. The method consists in previous oxidation of CNS- into bromine cyanogen, the decay of which by potassium iodide and following titration of the separated iodine by the thiosulphate solution after the forming of a compound between the free (excess) bromine with phenol. Because of the statement made in publications (Ref.4 that in this case results should be too low, it is stated here that this is the case only if the titer of the sodium thiosulphate

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solution is iodometrically adjusted with respect to the titration of the separated iodine; if, however, the titer is adjusted according to rhodanide and if the bromine-iodometric method is applied, more accurate results are obtained. The method was tested with artificially composed mixtures. (The analysis is described and tables of results are given). There are 2 tables, and 4 references, 1 of which is Slavic.

ASSOCIATION: Rostov State University and "Rostsel'mash" Plant (Rostovskiy gosudarstvennyy universitet i zavod "Rostsel'mash")

AVAILABLE: Library of Congress

Card 2/2 1. Iron metal sulfides-Thermal sulfonation-Processes
2. Thiosulfide determination-Idometrical methods

BRUKER, A.B.; FRENKEL', R.I.; SOBOROVSKIY, L.Z.

Preparation of esters of fluoantimonic and fluotitanic acids by reacting antimony trifluoride with complete esters of these acids. Zhur.ob.khim. 28 no.9:2413-2416 S '58. (MIRA 11:11)
(Titanic acids) (Antimony fluorides)

FRENKEL', R.I.; VAL'VACHEV, Yu.Ye., inzh.

Using plastics in the manufacture of agricultural machines. Mashinostroitel' no.2:33 F '60. (MIRA 13:5)

1. Zaveduyushchiy khimicheskim otdelom TSentral'noy zavodskoy laboratorii zavoda "Rostsel'mash" (for Frenkel). 2. TSentral'naya laboratoriya zavoda "Rostsel'mash" (for Val'vachev).
(Plastics--Molding)

FRENKEL', R. M.

USSR/Medicine - Anesthesia, Pentothal, Effect 1949
Medicine - Liver and Kidneys, Function of

"Effects of Pentothal Anesthetic on the Function of the Liver and Kidneys," A. Ya. Pytel', R. M. Frenkel', Faculty Surg Clinic, Stalingrad Med Inst, 6 pp

"Vest Khirurgii" Vol LXIX No 1

Pentothal anesthetic is increasingly used in the USSR in surgical operations. It is a relatively safe type of anesthetic, and can be administered safely even by inexperienced personnel, but very little is known of its action on various body organs. Describes tests used to determine toxic effect on liver and kidneys.

PA 47/49T49

FRANKL, R.N.

Precipitation of colloidal silver. Patent U.S.S.R. 77,922, Dec.31, 1949.
(CA 47 no.19:9834 '53)

Geynisman, Ya. I., Frenkel', R. O., Ioselevich, F. M. "The results of X-ray therapy of some results of firearm injuries to the brain", In the collection: Nevrologiya voyen. vremeni, Vol. I, Mosc w, 1949, p. 283-93.

SO: U-4111, 17 July 1953, (Letopis 'Zhurnal 'nykh Statey, No. 20 1949)

L 43639-66 KO

ACC NR: AT6032344 SOURCE CODE: HU/2505/65/027/001/0021/0025

AUTHOR: Makara, Gabor; Csalay, Laszlo; Frenkl, Robert; Somfai, Zsuzsa

ORG: Institute of Medical Research, MTA, Budapest (MTA Kiserleti Orvostudomanyi Kutato Intezet); Institute of Pathophysiology, Medical University of Budapest, Budapest (Budapesti Orvostudomanyi Egyetem, Korelettani Intezet)

TITLE: Effects of serotonin following desensitization with capsaicin

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 27, no. 1, 1965, 21-25

TOPIC TAGS: serotonin, body temperature, pharmacology

ABSTRACT: On desensitization with capsaicin, the body temperature-lowering, antidiuretic and local edematogenous actions of a low dose of serotonin are diminished while the temperature-lowering and ulcerogenic effects of a high dose of it remain unchanged. Orig. art. has: 5 figures. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUBM DATE: 15Nov63 / ORIG REF: 002 / OTH REF: 010

Card 1/1

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S/138/59/000/010/007/010
A051/A029

15,9130

AUTHORS: Kuz'minskiy, A.S.; Frenkel', R.Sh.; Khanin, S.Ye.; Fel'dshteyn, L.S.

TITLE: The Effect of Certain Organic Acid Salts on Rubber Vulcanization

PERIODCIAL: Kauchuk i Rezina, 1959, No. 10, pp. 32 - 35

TEXT: The problem of increasing the rate of vulcanization of rubber without decreasing the initial plasticity of the mixtures and without causing any detriment to the scorching resistance and the physico-mechanical properties of the vulcanizates was studied. The use of inorganic bases as activators did not always render favorable results due to the poor distribution of the base in the mixture and the tendency of the mixtures to scorching. Organic substances with an alkaline nature, such as aliphatic amines, were also applied with the result that the vulcanizates had better physico-mechanical properties and a higher rate of vulcanization, but the mixtures containing triethanolamine acquired an elevated hardness, had a tendency to scorching and too wide a range of their physico-mechanical properties. The accelerating effect of potassium, sodium and ammonium salts of weak acids, such as orthophosphoric acid, acetic acid and benzoic acid

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The Effect of Certain Organic Acid Salts on Rubber Vulcanization

were investigated. In the case of the salts of ortho-phosphoric acid, there was some accelerating action, but the same shortcomings were observed as in the case of sodium hydroxide or sodium. The salts of acetic and benzoic acids proved to be very good activators of the organic accelerators.[15] The strongest activator was shown to be ammonium benzoate, obtained from the reaction between an aqueous solution of ammonia and benzoic acid. The physical and chemical properties of this salt are listed and Tables 1 - 3 show the compositions and the physico-mechanical indices of the rubbers investigated. Figures 1 and 2 show the vulcanization level of the mixtures with ammonium benzoate. The latter actually serves as an activator of other organic accelerators, since it has only a slight accelerating action itself. The activating effect of this salt is present in mixtures not containing sulfur. The accelerating action of ammonium benzoate is explained by the alkaline properties of ammonia which forms during the vulcanization process. In addition to this, the benzoic acid which forms upon the decomposition of the ammonium benzoate also has been found to have some activating effect in the last stages of the vulcanization process. It increases the hardness of the vulcanizates and slows up the vulcanization at the processing temperature of the mixture.

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The Effect of Certain Organic Acid Salts on Rubber Vulcanization

The following conclusions are drawn: it is possible to accelerate the vulcanization of rubber using ammonium benzoate; by using this salt the range of activators can be increased and a saving on expensive organic accelerators is gained; the time needed to reach the optimum of the rubber mixture vulcanization can be decreased by 2 to 3 times; the scorching resistance and the physico-mechanical properties of the vulcanizates are not jeopardized from the use of the ammonium benzoate salt. There are 3 tables, 2 graphs and 11 references: 10 Soviet and 1 English.

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

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S/138/59/000/011/003/011
A051/A029

AUTHORS: Kuz'minskiy, A. S.; Frenkel', R. Sh.

TITLE: On the Problems of Decreasing the Tendency of Rubber Mixtures to Scorching

PERIODICAL: Kauchuk i Rezina, 1959, No. 11, pp. 14-16.

TEXT: The action mechanism of various salts of benzoic acid was studied in order to determine their value as anti-scorching agents, i.e., substances which would retard the vulcanization process at temperatures of 100-110°C. It was found that the most effective anti-scorching agent was cadmium benzoate. This was explained by the formation of the captax cadmium salt from the reaction between the cadmium benzoate and the mercaptobenzothiazole. It was also found that mixtures containing the cadmium salt of mercaptobenzothiazole have a considerable lesser tendency to scorching than similar mixtures containing cadmium benzoate and captax. The composition of the investigated mixtures is given in Table 1. The captax cadmium salt was tested in mixtures based on natural rubber in comparison with the combination of captax and cadmium benzoate (captax and its cadmium salt were used in equimolecular quantities). Table 2 shows that the addition of small

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On the Problems of Decreasing the Tendency of Rubber Mixtures to Scorching

quantities of benzoic acid to the mixtures containing cadmium captax salt hardly affects the rate of vulcanization. The reaction equation is given where it is seen that probably not the total amount of captax changes into cadmium salt, since the mixture containing the cadmium salt has a much lower tendency to scorching than a mixture containing the equivalent amount of captax and cadmium benzoate. Figure 1 shows that vulcanizates containing either captax or its cadmium salt have the same rate of vulcanization and have the same physico-mechanical properties and thermal-aging resistance. The mixtures which were compared contained combinations of captax or its cadmium salt with DFG or thiuram. The authors conclude that the application of cadmium salt of captax in industry helps to obtain a quickly-vulcanizing mixture without tendencies to scorching and that the cost of the mercapto-benzothiazole cadmium salt is less than the corresponding quantity of captax and cadmium benzoate. There are 2 tables, 4 graphs and 3 Soviet references.

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

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S/13060/000/011/004/010
A051/A029

AUTHORS: Kuz'minskiy, A.S., Frenkel', R.Sh.

TITLE: Investigating the Effects of Scorching on the Properties of Rubber

PERIODICAL: Kauchuk i rezina, 1960, No. 11, pp. 18-20

TEXT: The authors point out the formation of transverse bonds in the case of scorching, leading to a wide range of changes in the vulcanization lattice density. Attention is drawn to the fact that in addition to the transverse bonds being broken when rubber is processed on rollers, destruction and a branching of the molecular chains can also occur which in turn affect the physical and mechanical properties of rubbers. The authors have attempted to estimate the degree to which scorching of mixtures can be permitted without causing a significant drop in the mechanical properties of the vulcanizates. A study was also made of the effect of the nature of the destroyed mono- or polysulfide bonds, on the technological properties of the mixtures and on the mechanical indices of rubbers. Vulcanizates of non-filled mixtures based on natural rubber without sulfur and with thiuram

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Investigating the Effects of Scorching on the Properties of Rubber

and vulcanizates with sulfur containing ДФГ (DFG) were chosen as the objects to be investigated. The vulcanization of the mixtures was carried out for various periods of time in order to produce vulcanizates differing in their density of the spatial lattice and the vulcanizates obtained were processed on cold rollers. The density of the transverse bonds was determined by the method of the equilibrium coefficient. Figs. 1-3 show the change in the plasticity according to Carriere, of vulcanizates with different thickness of the lattice, when processed on the rollers. It was seen that vulcanizates containing monosulfide and polysulfide bonds with an equilibrium coefficient of 3-4 kg/cm^2 rapidly deteriorate on the rollers and immediately form a stable skin. Vulcanizates with higher values of the equilibrium coefficients were also found to pass into the plastic state. It was noted that the greater is the density of the space lattice, the longer the duration of the rolling process whereby the vulcanizates with monosulfide bonds passed into the plastic state more rapidly than those with polysulfide bonds. Tables 1 and 2 list the physico-mechanical properties and aging resistance of rubbers obtained from reclaimed

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Investigating the Effects of Scorching on the Properties of Rubber

vulcanizates having various bond types. From these data it is seen that with an increase in the lattice thickness in vulcanizates with the mono- or polysulfide bonds the physico-mechanical properties of the rubbers produced from these vulcanizates decrease. The following conclusions are drawn: 1) When vulcanizates containing transverse bonds are processed on rollers they are converted to the plastic state. 2) Vulcanizates with an equilibrium coefficient not over 3-4 kg/cm^2 rapidly deteriorate on the rollers and immediately form a stable skin. With an increase in the thickness of the lattice of the vulcanizates, a lengthy processing time is required in order to convert these to the plastic state. 3) Vulcanizates with monosulfide bonds pass more rapidly into the plastic state than those with polysulfide bonds. 4) With an increase in the thickness of the vulcanizates with mono- and polysulfide bonds the physico-mechanical properties drop in rubbers obtained from these vulcanizates. The aging resistance of the vulcanizates obtained from monosulfide bond material does not change with an increase in the thickness of the lattice and in rubbers prepared from vulcanizates with polysulfide bonds it sharply falls.

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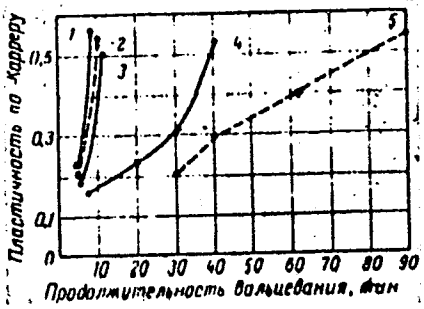
Investigating the Effects of Scorching on the Properties of Rubber

There are 2 tables, 3 graphs and 2 Soviet references.
ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

Fig. 1:
Vertical legend:
Plasticity according to Carriere
Horizontal legend:
rolling duration, min.
Change in the plasticity of the vulcanizates with monosulfide bonds in rolling.
1-vulcanizate with an initial equilibrium coefficient of 1.7 kg/cm^2
2-20 kg/cm^2, 3-3.0 kg/cm^2
4-6.0 kg/cm^2, 5-11.0 kg/cm^2



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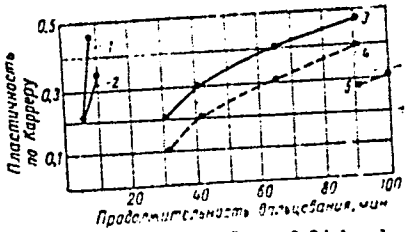
Investigating the Effects of Scorching on the Properties of Rubber

Fig. 2:
Vertical legend:
Plasticity according to Carriere
Horizontal legend:
rolling duration, min.



Change in the plasticity of the vulcanizates with polysulfide bonds in rolling: 1-vulcanizate with initial equilibrium coefficient of 1.7 kg/cm^2 2-3.0 kg/cm^2, 3-6.0 kg/cm^2, 4-11.0 kg/cm^2, 5-18.8 kg/cm^2.

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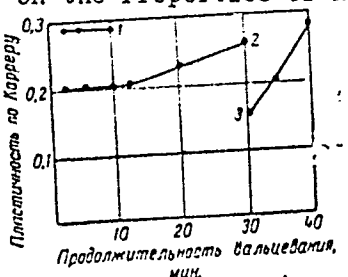
Investigating the Effect of Scorching on the Properties of Rubber

Fig. 3:
Vertical legend:
Plasticity according to Carriere
Horizontal legend:
rolling duration, min.



Plasticity change in vulcanizates with carbon bonds during rolling:
1-vulcanizates with initial equilibrium coefficient of 1.7 kg/cm^2
2-3.0 kg/cm^2, 3-4.0 kg/cm^2

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Investigating the Effect of Scorching on the Properties of Rubber

Table 1: Physico-mechanical properties and aging resistance of rubbers produced from vulcanizates containing monosulfide bonds

① Тип смеси	② Продолжительность вулканизации при 4 атм, мин.	③ Сопротивление разрыву, кг/см²	④ Относительное удлинение, %	⑤ Остаточное удлинение, %	⑥ Модуль при 500% удлинении, кг/см²	⑦ Равновесный модуль, кг/см²	⑧ Коэффициент теплового старения при 100° через 24 часа: ⑨ по сопротивлению разрыву	⑧ Коэффициент теплового старения при 100° через 24 часа: ⑩ по относительному удлинению
⑪ Исходная	15	228	800	4	50	11,3	0,95	0,93
⑫ Из вулканизата с равновесным модулем 1,7 кг/см², вальцованного 7 мин.	9	157	700	6	55	10,1	0,94	0,87
⑬ Из вулканизата с равновесным модулем 3,0 кг/см², вальцованного 7 мин.	15	150	700	6	50	9,0	0,82	0,85
⑭ Из вулканизата с равновесным модулем 6,0 кг/см², вальцованного 40 мин.	20	135	710	4	35	8,1	0,71	0,87
⑮ Из вулканизата с равновесным модулем 11 кг/см², вальцованного 40 мин.	25	120	735	5	23	6,8	0,67	0,90

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Investigating the Effect of Scorching on the Properties of Rubber

Table 1 (continued): (1) mixture type; (2) vulcanization duration at 4 atm, min; (3) tear-resistance, kg/cm^2; (4) relative elongation, %; (5) residual elongation %; (6) coefficient at 500%, elongation, kg/cm^2; (7) equilibrium coefficient, kg/cm^2; (8) coefficient of thermal aging at 100°C, after 24 h; (9) according to tear-resistance; (10) according to relative elongation; (11) initial; (12) from vulcanizates with an equilibrium coefficient of 1.7 kg/cm^2, rolled for 7 min; (13) from vulcanizates with an equilibrium coefficient of 3.0 kg/cm^2, rolled for 7 min; (14) from vulcanizates with an equilibrium coefficient of 6.0 kg/cm^2, rolled for 40 min; (15) from vulcanizates with an equilibrium coefficient of 11 kg/cm^2, rolled for 40 min.

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S/138/60/000/011/004/010
A051/A029

Investigating the Effect of Scorching on the Properties of Rubber

Table 2: Physico-mechanical properties and aging resistance of rubbers produced from vulcanizates containing polysulfide bonds

① Тип смеси	② Продолжительность вулканизации при 4 атм, мин.	③ Сопротивление разрыву, кг/см²	④ Относительное удлинение, %	⑤ Остаточное удлинение, %	⑥ Модуль при 500% удлинения, кг/см²	⑦ Равновесный модуль, кг/см²	⑧ Коэффициент теплового старения при 100° через 24 часа: по сопротивлению разрыву ⑨	по относительному удлинению ⑩
⑪ Исходная	15	265	770	12	30	18,8	0,66	0,85
⑫ Из вулканизата с равновесным модулем 1,7 кг/см², вальцованного 7 мин.	17	250	620	16	39	19,3	0,6	0,89
⑬ Из вулканизата с равновесным модулем 3,0 кг/см², вальцованного 10 мин.	14	195	590	12	31	14	0,5	0,8
⑭ Из вулканизата с равновесным модулем 6,0 кг/см², вальцованного 40 мин.	14	160	590	14	32	13	0,21	0,44
⑮ Из вулканизата с равновесным модулем 11 кг/см², вальцованного 40 мин.	8	155	580	20	34	12	0,13	0,34
Из вулканизата с равновесным модулем 18,8, кг/см², вальцованного 90 мин.	8	92	570	12	22	16	0,1	0,18

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Investigating the Effect of Scorching on the Properties of Rubber

Table 2 (continued): (1) mixture type; (2) vulcanization duration at 4 atm, min; (3) tear-resistance, kg/cm^2; (4) relative elongation, %; (5) residual elongation %; (6) coefficient at 500% elongation, kg/cm^2; (7) equilibrium coefficient, kg/cm^2; (8) coefficient of thermal aging at 100°C, after 24 h; (9) according to tear-resistance; (10) according to relative elongation; (11) initial; (12) from vulcanizates with an equilibrium coefficient of 1.7 kg/cm^2, rolled for 7 min; (13) from vulcanizates with an equilibrium coefficient of 3.0 kg/cm^2, rolled for 10 min; (14) from vulcanizates with an equilibrium coefficient of 6.0 kg/cm^2, rolled for 40 min; (15) from vulcanizates with an equilibrium coefficient of 18.8 kg/cm^2, rolled for 90 min.

Card 10/10

FEL'DSHTEYN, L.S.; KHANIN, S.Ye.; FRENKEL', R.Sh.; KUZ'MINSKIY, A.S.

Vulcanization of rubber with mercaptan in the presence of carbon blacks. Kauch. i rez. 20 no.8:28-32 Ag '61. (MIRA14:8)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

(Vulcanization)

15.9701

S/138/62/000/003/003/006
A051/A126

AUTHORS: Frenkel', R. Sh., Kuz'minskiy, A. S., Fel'dshteyn, L. S., Khanin, S. Ye., Vinogradova, L. F.

TEXT: The effect of ingredients in rubber mixes on the structuralizing of butadiene-nitrile rubber

PERIODICAL: Kauchuk i rezina, no. 3, 1962, 10 - 12

TEXT: An investigation was conducted to determine the effect of ingredients other than altax, for example (in the absence of sulfur), on the process of thermal structuralizing in synthetic rubbers. Butadiene-nitrile rubber СКН-26 (SKN-26) (commercial) was used in the experiments in an air medium. The thermomechanical method was used to determine the initial temperature of the mixture structuralizing. Accelerators and activators of vulcanization have a significant effect on the rate of thermal structuralizing. The accelerators increase the rate of structuralizing and lower the initial temperature. At the addition of zinc oxide into the system rubber-altax decreases the initial temperature and increases the rate of structuralizing. Thus, it is thought that the zinc oxide serves as a catalyst in the process of thermal decomposition. Data on the reaction kinetics with

Card 1/2

The effect of...

iodine prove this supposition. The following conclusions are drawn: Certain fillers (gasecus and thermal carbon black) and accelerators (captax) increase the tendency to structuralizing of the mixtures based on butadiene-nitrile rubber. Those filled with gaseous carbon black, containing altax or captax, are particularly prone to structuralizing. Zinc oxide increases the structuralizing action of captax in mixtures with gaseous carbon black. In the case of altax, the zinc oxide speeds up the structuralizing process both in filled and non-filled mixtures. The zinc oxide increases the ratio of the thermal decomposition of altax to free radicals. There are 3 figures, 2 tables and 5 Soviet-bloc references.

ASSOCIATIONS: Volzhskiy filial Nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti i Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Volga Branch of the Scientific Research Institute of the Rubber Industry and the Scientific Research Institute of the Rubber Industry)

X

S/138/62/000/010/004/008
A051/A126

AUTHORS: Frenkel', R.Sh., Kuz'minskiy, A.S., Morozova, G.M., Gorbunova, V.I.

TITLE: Investigation of the effect of zinc compounds on rubber vulcanization

PERIODICAL: Kauchuk i rezina, no. 10, 1962, 32 - 36

TEXT: An investigation was conducted to determine the action mechanism of zinc oxide and the possibility of producing more effective vulcanization activators. One of the functions of zinc oxide as an activator of vulcanization is its catalytic effect on the decomposition of polysulfide bonds of the vulcanizate. Zinc hydroxide is recommended as a new vulcanization activator, the former reducing the time needed to achieve optimum vulcanization by 2 to 3 times. This new activator also reduces the tendency to scorching; the physico-mechanical properties of the mix are not significantly changed. Best results are obtained with zinc hydroxide combined with ammonium benzoate. Zinc carbonate, as a vulcanization activator, was found to increase the thermal aging resistance of the vulcanizates. The tendency to scorching, as well as the physico-mechanical

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Investigation of the effect of ....

and fatigue properties, remain unchanged. Since zinc oxide, zinc hydroxide, and zinc carbonate have the same specific surface and particle size, the elevated activity of the investigated substances as compared to that of zinc oxide, is explained by the fact that the zinc oxide, formed in their decomposition during the vulcanization process, is more effective than its commercial counterpart. There are 3 figures and 4 tables.

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

Card 2/2

FRENKEL', R.Sh.; KUZ'MINSKIY, A.S.; FEL'DSHTEYN, L.S.; KHANIN, S.Ye.; VINOGRADOVA, L.F.

Effect of the ingredients of rubber mixtures on the structure formation of butadiene-nitrile rubber. Kauch.i rez. 21 no.3:10-12 Mr '62. (MIRA 15:4)

1. Volzhskiy filial Nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti i Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

(Rubber, Synthetic--Testing)

S/138/63/000/003/003/008
A051/A126

AUTHORS: Frenkel', R. Sh., Kuz'minskiy, A. S.

TITLE: The effect of various salts of diphenylguanidine (DPhG) on the rate of vulcanization and the resistance to scorching of rubber mixes based on natural rubber (NR), CKC-30 (SKS-30), and CKБ -30 (SKB-30)

PERIODICAL: Kauchuk i rezina, no. 3, 1963, 8 - 9

TEXT: A study was made of the effects of acetic and hydrochloric acid salts of DPhG on the rate of vulcanization and resistance to scorching of rubber mixes based on NR, SKS-30 and SKB-30. Experimental data showed that a replacement of DPhG by its acetic-acid salt has very little effect on the vulcanization rate of the NR-base mixes, while a replacement by its hydrochloric salt sharply impedes the process rate. Experiments with various mixes using only the acetic-acid DPhG as a replacement, showed that rubber mixes containing the acetic-acid DPhG were far more resistant to scorching than similar mixes containing the DPhG. It is concluded that the acetic-acid salt of the DPhG, in combination

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The effect of various salts of...

with other accelerators, ensures a vulcanization rate of rubber mixes based on NR, SKS-30 and SKB-30 equal to that of DPhG; and a much higher resistance of the mixes to scorching. There are 2 tables and 1 figure.

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

L 13522-63 EWP(j)/EWT(m)/BDS AFFTC/ASD Pc-4 RM
ACCESSION NR: AP3001153 S/0190/63/005/006/0834/0836

59
58

AUTHOR: Frenkel', R. Sh.; Kuz'minskiy, A. S.

TITLE: The role of zinc oxide in vulcanization of rubbers by tetramethylthiuram-disulfide

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 6, 1963, 834-836

TOPIC TAGS: vulcanization of rubber, free radical, zinc oxide, thiuram

ABSTRACT: Since the vulcanization of rubber by tetramethylthiuramdisulfide (TMTD) is due to its breakup into free radicals, it was assumed that zinc oxide was enhancing their formation. To prove this point the authors based their study on the property of the free radicals from TMTD decomposition to remove chlorine from carbon tetrachloride with the formation of $(CH_3)_2NC(S)SCl$, (CHNCSCl), the yield of which in the presence of ZnO could be used as an index of its performance. To this end, 3 gms of TMTD, 30 ml carbon tetrachloride, and 3 gms ZnO were heated for 3 hours in ampules at 135C, with the result that 90% of the entire TMTD underwent decomposition with the formation of CHNCSCl, 60% of the latter having entered into a reaction with zinc oxide to form zinc chloride. The control, without ZnO, did not reveal the presence of any new chlorine-containing compounds, while the heating of

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L 13522-63
ACCESSION NR: AP3001153

TMTD as such at 130-145C yielded some amines and carbon disulfide. Since the standard process of vulcanization results also in the formation of dithiocarbaminic acid, it was decided to find out whether this byproduct would react with ZnO. Comparative vulcanization tests in the presence of either ZnO or ZnS were set up, with only a slight difference in the quality of the resulting vulcanizate. Since ZnS is incapable of binding CHNCSCl, but it does enhance the breakup of TMTD into free radicals, the author concluded that the main role of ZnO consists of promoting the decomposition of TMTD. Orig. art. has: 1 chart and 1 table.

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

SUBMITTED: 17Nov61 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 002 OTHER: 001

Card 2/2

L 18557-63 EWP(j)/EWT(m)/BDS AFFTC/ASD Pc-4 RM/MAY

ACCESSION NR: AP3004260 S/0138/63/000/007/0046/0048

AUTHORS: Frenkel', R. Sh.; Filippova, T. I., Vinogradova, L. F.

TITLE: The effect on physical and mechanical indices of vulcanizates, brought on by thermal treatment of rubber mixtures with kaolin

SOURCE: Kauchuk i rezina, no. 7, 1963, 46-48

TOPIC TAGS: butadiene-styrene rubber, thermal treatment, kaolin, vulcanizate

ABSTRACT: Thermal treatment of butadiene-styrene rubbers with various amounts of kaolin, using sulfur and p-quinonedioxime as activators, was conducted at 143C for periods up to 40 minutes. This was followed by milling on cold mixing rolls and a second vulcanization in a press. Such a procedure causes a compound containing 60% kaolin to yield a vulcanizate of 40-50% higher strength, which is reached during the first two minutes of thermal treatment. At the Armavir plant for rubber soles additional experiments were conducted with three types of synthetic rubbers to which were added from 170 to 200 parts of kaolin. After compounding on mixing rolls, the products were warmed for 15 minutes at 150C, followed by 2-3 minutes of roll-milling and subsequent vulcanization. It was

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L 18557-63

ACCESSION NR: AP3004260

found that the resistance of the vulcanizates to abrasion increased by 20-25%, while the tolerance to 75%-stretchings at 250 cycles per minute increased threefold and elevenfold, with the plasticity remaining unchanged. In another procedure the initial operation is conducted in a mixer heated to 100-110C. Orig. art. has: 1 chart and 2 tables.

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

SUBMITTED: 00 DATE ACQ: 21Aug63 ENCL: 00

SUB CODE: MA NO REF SOV: 002 OTHER: 002

Card 2/2

FRENKEL', R.Sh.; ZALESSKAYA, A.D.; Prinimala uchastiye AKUNINA, N.G.

Investigating the possibility of rubber bonding to glass. Kauch. i rez. 22 no.11:27 N '63. (MIRA 17:2)

1. Volzhskiy filial Nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti.

S/0138/64/000/002/0052/0053

ACCESSION NO: AP4017166

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

Card 2/2

F I 7775-66 EWT(m)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c)

ACC NR: AP6001095 JD/WW/HM/RM SOURCE CODE: UR/0138/65/000/012/0048/0049

AUTHOR: Parfenteva, N. I.; Frenkel', R. Sh.; Popov, A. V.; Kuz'mina, E. A.

ORG: Volga Branch of the Scientific Research Institute of the Rubber Industry (Volzhskiy filial Nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti)

TITLE: Bonding insulation rubber to copper

SOURCE: Kauchuk i rezina, no. 12, 1965, 48-49

TOPIC TAGS: rubber to copper bonding, butyl rubber, copper, adhesive, adhesive bonding, metal bonding

ABSTRACT: The authors have developed an improved method for bonding butyl rubber to copper, involving thorough cleaning of the metal surface and use of two adhesives. The copper surface is shot blasted, vent degreased, and treated at 70—80C with ultrasound in a special electrolyte bath (sulfuric acid, 500 g/l; OP-7 emulsifier, 30 g/l; thiourea, 5 g/l). The washed and dryed copper surface is covered with a layer of BF-2 phenol-formaldehyde resin which is cured at 150C for 30 min. The resin is then coated with Leuconat adhesive. This is followed by application of freshly milled butyl rubber on the copper surface and vulcanization in a press. The adhesion strength of the system varies from 19 to 40 kg/cm^2 depending on ambient temperature and aging time. The shear strength is 40 to 45 kg/cm at 20C. [BO]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 4159

Card 1/1 UDC: 678.029.42

L 24149-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM

ACCESSION NR: AP5002182 S/0032/65/031/001/0114/0114

AUTHOR: Frenkel', R. Sh.

TITLE: Determination of the resistance of rubber mixtures to premature vulcanization

SOURCE: Zavodskaya laboratoriya, v. 31, no. 1, 1965, 114

TOPIC TAGS: rubber property, rubber vulcanization, rubber mixture vulcanization

ABSTRACT: To eliminate the disadvantages of the normal method for determining the resistance of rubber mixtures to premature vulcanization, a new method, using a Kargin scale (V. A. Kargin and T. I. Sogolova. Zhurnal fizicheskoy khimii, 23, 5, 530 (1949)) was developed. Samples of fresh rubber mixtures (5 mm in diameter, 5 mm high) were placed between the plates of a Kargin scale and heated at 10C per minute to the desired temperature. The compressive deformation of the samples was then determined at 2 to 3 minute intervals. The deformation was found to remain constant until premature vulcanization and to fall sharply thereafter. The method required 20 to 30 minutes to determine the time to premature vulcanization with an accuracy of ± 1.5 minutes, and it gave excellent reproducibility. The method is recommended because of its simplicity.

Card 1/2

L 24149-65
ACCESSION NR: AP5002182

ASSOCIATION: Volzhskiy filial nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti (Volga Branch of the Scientific Research Institute of the Rubber

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 001 OTHER: 000

Card 2/2

L 22287-66 EWP(j)/EWT(m)/EWP(t) IJP(c) RM/JD

ACCESSION NR: AP6006492 SOURCE CODE: UR/0138/65/000/010/0026/0027

AUTHOR: Frenkel', R. Sh.; Kuz'minskiy, A. S.; Morozov, G. M.; Gorbunova, V. I.

ORG: Volga Branch, Scientific-Research Institute of the Tire Industry (Volzhskiy filial nauchno-issledovatel'skogo instituta shinnoy promyshlennosti)

TITLE: Investigation of the effect of zinc oxide on the decomposition of the polysulfide bonds of vulcanizates

SOURCE: Kauchuk i rezina, no. 10, 1965, 26-27

TOPIC TAGS: zinc oxide, vulcanization, rubber, sulfide, chemical decomposition

ABSTRACT: The present authors showed earlier (Kauchuk i rezina, no. 10, 32 (1962); Vysokomolekulyarnyye soyed., 5, no. 6, 834 (1963)) that zinc oxide promotes the free-radical decomposition of disulfide vulcanization catalysts. This led to the assumption that zinc oxide will affect the free-radical di- and polysulfide bonds of vulcanizates in a similar manner. For the investigation of the effect of zinc oxide on the decomposition of the polysulfide bonds of a vulcanizate, the authors used the following compositions of a rubber mixture: (parts by wt.) SKN-26, 100.0, DFG, 1.0; sulfur, 5.0; furthermore, the following were added: ZnO (mixture 1), CaO (mixture 2), and BeO (mixture 3), 5.0. It is concluded that zinc oxide

Card 1/2 UDC: 678.028:541.12

L 22287-66

ACCESSION NR: AP6006492

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promotes the decomposition of sulfur-containing horizontal bonds of vulcanizate SKN-26, which leads in the process of vulcanization to an increase in the concentration of the horizontal bonds and to a reduction in the degree of sulfidity. Orig. art. has: 1 figure and 1 table.

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 003

Card 2/2 nst

PARFENTEVA, N.I.; FRENKEL', R.Sh.; POPOV, A.V.; KUZ'MINA, E.A.

Development of the method for bonding insulation rubber to copper. Kauch. i rez. 24 no.12:48-49 '65. (MIRA 18:12)

1. Volzhskiy filial Nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti.

L 36368-66 EWP(j)/EWT(m) IJP(c) RM
ACC NR: AP6009869 (A) SOURCE CODE: UR/0413/66/000/004/0067/0067

27
B

INVENTOR: Frenkel', R. Sh.; Bagrova, N. M.

ORG: none

TITLE: Making rubber with a synthetic fiber filler. Class 39, No. 178976 [announced by the Volga Branch of Scientific-Research Institute for the Rubber Industry (Volzhskiy filial nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 67

TOPIC TAGS: rubber, natural rubber, synthetic rubber, synthetic fiber

ABSTRACT: An Author Certificate has been issued describing a method of making rubber filled with synthetic fiber derived from nautral and synthetic rubbers. To improve the physical and mechanical properties of the product, the vulcanizers are heated additionally in air at 100—170C. [LD]

SUB CODE: 11/ SUBM DATE: 25May64

Card 1/1 UDC: 678.4.046.76

ACC NR: AP6036352 (A) SOURCE CODE: UR/0138/66/000/011/0007/0009

AUTHOR: Frenkel', R. Sh.; Panchenko, V. I.

ORG: Volga Branch of the Scientific Research Institute of the Rubber Industry (Volzhskiy filial nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti)

TITLE: Effect of polyamide resin on the properties of nitrile rubber vulcanizates

SOURCE: Kauchuk i rezina, no. 11, 1966, 7-9

TOPIC TAGS: nitrile rubber, ~~nitrile rubber vulcanizate, filler~~, polyamide resin, ~~channel black, filled~~ vulcanization, filler

ABSTRACT: A study has been made of the effect of polyamide resin on the heat resistance and other properties of nitrile rubber vulcanizates. The study was undertaken in an attempt to replace phenol-formaldehyde resins, currently used for improving the heat resistance of nitrile rubbers, by polyamide resins which exhibit a higher stability. The experiments were conducted with SKN-26 nitrile rubber or blended SKN-26 and SKN-40 rubbers and 548 polyamide resin [unspecified]. The resin was added to the rubbers on preheated (155C) mills. Polyamide resin was shown to produce a reinforcing effect on standard nitrile rubber vulcanizates. The best properties were exhibited by vulcanizates filled with 10 parts resin and 40—60 parts channel black. Addition of polyamide resin considerably improved the heat resistance of

UDC: 678.762.2-134.535:678.046.78.004.12

Card 1/2

ACC NR: AP6036352

the vulcanizates, and decreased their compression set and relaxation time. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 11/ SUBM DATE: 22Jun65/ OTH REF: 001/ ATD PRESS: 5106

Card 2/2

ACC NR: AP7000913 (A) SOURCE CODE: UR/0130/66/000/012/0020/0022

AUTHOR: Frenkel', R. Sh.; Bagrova, N. M.; Zheltyshev, Yu. G.; Vinogradov, N. N.

ORG: Volga Branch, Scientific Reseach Institute of the Rubber Industry (Volzhskiy filial nauchno-issledovatel'skogo instituta rezinovoy promyshlennosti)

TITLE: Study of the reinforcement of rubbers with various fibers

SOURCE: Kauchuk i rezina, no. 12, 1966, 20-22

TOPIC TAGS: reinforced rubber, filler, natural rubber, synthetic fiber

ABSTRACT: A study has been made of the reinforcement of rubbers with fibers and of the effect of various fibers on the properties of rubber vulcanizates. The study was undertaken for the purpose of preparing substitutes for fabric-reinforced rubbers whose production technology is of some complexity. The experiments were conducted with natural, butadiene-styrene (SKS-30 ARM-15), nitrile (SKN-26), or polychloroprene (Nairit) rubbers, and with natural (flax, cotton) or synthetic (polycaprolactam, dacron, viscose) 30 mm fiber strands. The adhesium of the synthetic fibers to the rubbers was improved by impregnation of the fibers with adhesive compositions. Caprolactam fibers required preliminary treatment with a 20% NaOH solution at 75C. Rubber-fiber mixtures were prepared on preheated mills. Other [unspecified] ingredients were added under the usual conditions. The mixtures, containing 100 parts rubber, 60 parts fiber, and in most instances, 30 parts carbon black, were

Card 1/2 UDC: 678.4/.7:678.046.76

ACC NR: AP7000913

vulcanized at 143C for 40 min. The properties of the vulcanizates with and without carbon black were investigated. Carbon black did not improve the properties of the vulcanizates, but carbon black of any type proved to be a necessary ingredient [reason unspecified]. Fiber-and-carbon-black-reinforced vulcanizates had high resistance to thermal aging and creep, satisfactory elasticity, and high tear-resistance. The best reinforcing properties were exhibited by caprolactam fibers impregnated with a mixture of carboxylated polybutadiene (SKD-1) latex (dry matter content, 20%) and a 40% solution of resorcinol-formaldehyde resin. Heat treatment of Nairit vulcanizates yielded products with the following properties: tensile strength, 500 kg/cm^2; elongation, 50%; residual elongation, 2%. It is concluded that the good properties of fiber-and-carbon-black-reinforced vulcanizates are favorable to the expansion of their use in industry as eventual substitutes for fabric-reinforced rubber products, such as tires, conveyer belts or hoses. Orig. art. has: 1 figure and 3 tables.

SUB CODE: 11, 07/ SUBM DATE: 22Jul65/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 5108

Card 2/2

FRENKEL, S; STAWENO, K.

Treatment of pulmonary tuberculosis with small doses of streptomycin. Gruzlica, Warsz. 20 no. 2:239-245 Mar-Apr 1952. (CIML 22:3)

1. Of the State Sanatorium of Tuberculosis (Director--Stanislaw Frenkel, M. D.), Prabuty and of the Institute of Tuberculosis (Director--Prof. J. Misiewicz, M. D.)

FRENKEL, S.

Attempted therapy of pulmonary tuberculosis with prolonged sleep; preliminary communication. Gruzlica, Warsz. 20 no. 4:533-536 July-Aug 1952. (CLML 23:3)

1. Of the State Sanatorium of Tuberculosis (Director--Stanislaw Frenkel, M.D.), in Prabuty.

FREYKEL, STANISLAW

FRENKEL, Stanislaw; RLEDOWSKA, Jadwiga; ROSE, Andrzej

Remote results of conservative therapy of pleural empyema.
Gruzlica 22 no.8:547-552 Aug 54.

1. Z Panstwowego Zespolu Szanatoriow Przeciwgruzliczych w Zakopanem.
Dyrektor: dr S.Frenkel.
(TUBERCULOSIS, PULMONARY, complications,
pleural empyema, ther., results)

FRENKEL, Stanislaw

1314-Th -- a new antitubercular drug and its significance in pulmonary surgery. Polski tygod. lek. 16 no.38:1452-1455 18 S '61.

1. Z Kliniki Chirurgii Klatki Piersiowej Studium Doskonalenia Lekarzy A.M. w Warszawie i z Sanatorium Torakochirurgicznego im. Dr O. Sokolowskiego w Zakopanem; kierownik: prof. dr med. Wit Rzepecki.

(ANTITUBERCULAR AGENTS ther)
(PNEUMONECTOMY)

FRENKEL', S.; MATYTSIN, N.

Incorrect calculations. Mias. Ind. SSSR. 25 no.3:21-22 '54. (MLRA 7:7)

1. Moskovskiy myasokombinat.
(Sausages)

FRENKEL, Stanislaw

Relapse of tuberculosis following pneumonectomy. Gruzlica 30 no.11: 999-1008 '62.

1. Z Kliniki Chirurgii Klatki Piersiowej SDL w Zakopanem. Kierownik: prof. dr med. W. Rzepecki.
(PNEUMONECTOMY) (TUBERCULOSIS PULMONARY)

FRENKEL', Semen Shul'yevich; ZHIDELEV, M.A., nauchn. red.; GORYUNOVA, L.K., red.; BARANOVA, N.N., tekhn. red.

[Teaching the special technology of milling] Prepodavanie spetsial'noi tekhnologii frezernogo dela. Moskva, Proftekhizdat, 1963. 166 p. (MIRA 17:4)

FRENYEI, S.

"The piecework system should be used more often. p. 259." (ZYCIE GOSPODARCZE, Vol. 7, no. 9, Mar. 1953, Warszawa, Poland.)

SO: East European, L. C. Vol. 2, No. 12, Dec. 1953

FRENKEL, S.

"How the economic ministries care for the development of labor competition. p. 499."
(ZYCIE GOSPODARCZE, Vol. 4, no. 16, Mar. 1953, Warszawa, Poland.)

SO: East European, L. C. Vol. 2, No. 12, Dec. 1953

Frenkel, S.

FRENKEL, S.

"Development of machine construction in Poland", P. 62., (TESHKA PROMISHLENOST, Vol. 3, No. 9, 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

Frenkel, S.

FRENKEL, S.

"Preparation of enterprises for work during the winter", P. 1.,
(TESHKA PROMISHLENOST, Vol. 3, No. 10, 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4,
No. 6, June 1955, Uncl.

FRENKEL, S.

"Poland, a country of great metallurgy", P. 60., (TEKHKA PROMISH-LENOST, Vol. 3, No. 10, 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

POLAND / Chemical Technology, Chemical Products and Their Application, Part 3. - Industrial Organic Synthesis. H

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61824.

Author : Stefan Frenkel, Tadeusz Jaworski.
Inst : Not given.
Title : Kedzierzyn Combine and Chemical Industry Development Plans in Poland.

Orig Pub: Zycie gospod., 1957, 12, No 51 - 52, 3.

Abstract: The Kedzierzyn chemical combine continues to build up organic synthesis, in particular the production of pthaleic anhydryde, fatty acids, butyl acetate, n-ntroethylbenzene, anthraquinone etc., besides NH_3 and artificial fertilizers. The use of homemade equipment in the technology of fatty acid production is noted. The technology of NH_3 production of the hydrogen

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POLAND / Chemical Technology, Chemical Products and Their Application, Part 3. - Industrial Organic Synthesis.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61824.

Abstract: fraction of coke gas with the utilization of other fractions for the organic synthesis is being developed, a future transition to brown coal is prepared. It is planned to increase the production of artificial fertilizers to 60 or 65 kg per ha in 1960 and to 110 or 120 kg per ha in 1970. The production of plastics and artificial fibers was 0.4 kg per person of the entire population in 1955, the average world's production having been 1.1 kg; in 1970 it is planned to produce 7.5 kg of plastics per person of the population, the expected average world's level being 3.3 kg.

Card 2/2

FRENKEL', S.

Cooperation between a factory and a school. Prof.-tekh.obr. 17 no.6:17-19 Je '60. (MIRA 13:7)
(Moscow—Education, Cooperative)

FRENKEL', S.

Exhibition of methods. Prof.-tekh.obr. 19 no.1:23 Ja '62.
(MIRA 15:1)

1. Direktor Respublikanskogo uchebno-metodicheskogo kabineta, g. Moskva.

(Vocational education--Exhibitions)

FRENKEL', S.

Seminar of specialists in methods. Prof.-tekh. obr. 20 no.9:29-30 [redacted]. (MIRA 16:11)

FRENKEL, Stanislaw; KOWALCZYK, Hanna; HARASDA, Maria

Effect of substitute drugs on the viability of tuberculosis bacilli in autopsy specimens. Gruzlica 33 no.2:111-115 F '65.

1. Z Kliniki Chirurgii Klatki Piersiowej Studium Doskonalenia lekarzy w Zakopanem (Kierownik: prof. dr. med. W. Rzepecki).

KANWISZER, Henryka; FRENKEL, Stanislaw

Can ethionamide be used in reduced doses? Gruzlica 33 no.3: 231-234 Mr'65.

1. Z Kliniki Chirurgii Klatki Piersiowej SDL [Studium Doskonalenia Lekarzy] w Zakopanem (Kierownik: prof. dr. med. W. Rzepecki).

FRENKEL', Stanislav

Recurrence of tuberculosis following lung resection. Vrach. delo. tub. 42 no.10:29-32 '64. (MIRA 18:11)

1. Klinika torakal'noy khirurgii (rukovoditel' - prof. V.I. Shepetskiy), Pol'sha.

FRENKEL', Sergey Yakovlevich

[Introduction to the statistical theory of polymerization] Vvedenie v statisticheskuiu teoriiu polimerizatsii. Moskva, Nauka, 1965. 266 p. (MIRA 19:1)

FRENKEL', S.I. [redacted]

Improved freight transportation in mixed railroad and waterway systems. Rech. transp. 16 no.6:8-10 Je '57. (MLRA 10:8)

1. Starshiy inzhener-tekhnolog Gor'kovskogo porta.
(Inland water transportation) (Railroads--Freight)

FRENKEL, Stanislaw; JAWORSKI, Jan; LUKIANSKA, Daniela; SMOL, Zdzislaw

Results in the treatment of chronic pulmonary tuberculosis in adults with pyrazinamide in association with PAS. Gruzlica 30 no.1:51-55 '62.

1. Z Kliniki Chirurgii Klatki Piersiowej SDL w Zakopanem Kierownik: prof. dr med. W. Rzepecki z Sanatorium Akademickiego w Zakopanem Dyrektor: dr J. Jaworski z Sanatorium Nauczycielskiego w Zakopanem Dyrektor: dr R. Tajchman z Sanatorium "Warszawianka" w Zakopanem Dyrektor: dr S. Sroczynski.

(PYRAZINAMIDE ther)
(PARAAMINOSALICYLIC ACID ther)

FRENKEL, Stanislaw; RADECKI, Aleksander; RADECKA, Halina (Zakopane).

To what degree can we rely upon spirometric findings? Gruzlica 31 no.6:595-596 Je'63.

*

FRENKEL', S.N.; KAPLAN, A.A.; PEREPELITSKIY, S.G.; GOLOVKIN, P.I.; KNYAZEV, P.I.

Discussion of the use of PPV wires. Prom.energ. 11 no.8:24-26 Ag '56. (MLRA 9:11)

1. Glavelektromontazh Ministerstva stroitel'stva (for Frenkel'). 2. Moskovskoye proyektno-eksperimental'noye otdeleniye Gosudarstvennogo Politekhnicheskogo instituta Tyazhpromelektroproyekta (for Kaplan). 3. Elektrootdel instituta "Mosproyekt" (for Perepelitskiy). 4. Gorodskaya elektroinspektsiya Energosbyta Mosenergo (for Golovkin and Knyazev).

(Electric wire, Insulated)

FRENKEL, S.

DANILENKO, A.; CHUMAKOV, N.; SERBINOVSKIY, G.; GRACHEV, V.; KHRAMUSHIN, A.; SOKOLOV, B.; BOL'SHAM, Ya.; TAYTS, A.; NEYFEL'D, M; FRENKEL', S.; LYUDMIRSKIY, I.; NEBESNYY, A.; VESHNEVSKIY, S.; YERMILOV, A.; BROZGOL', M.; SOLOV'YEV, P.; KLYUYEV, S.; ROZENTAL', A.; SMIRNOV, V.; DOROFEYUK, A.

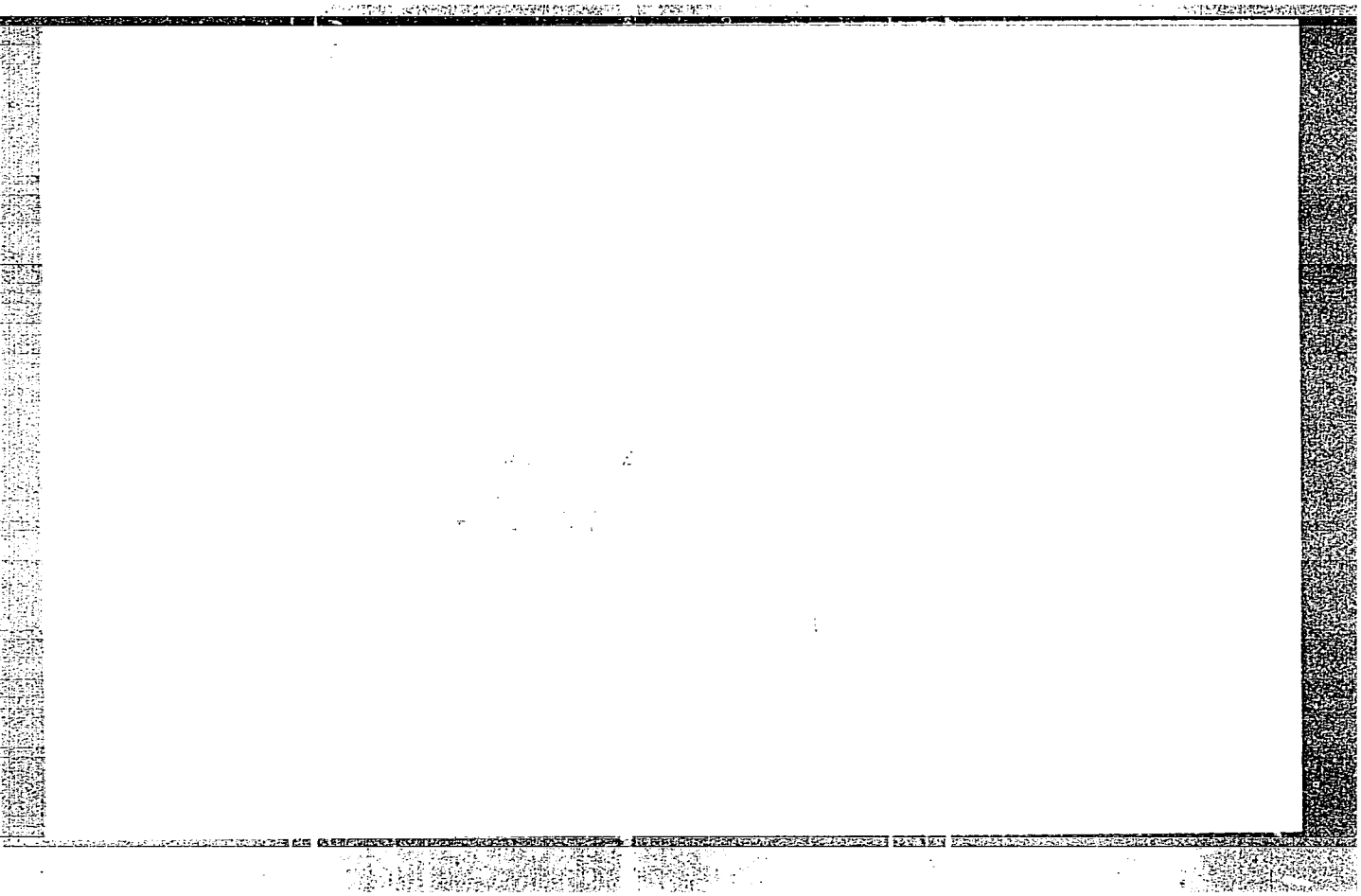
Solomon Mikhailovich Livshits; obituary. Prom energ. 11 no.12:34 D '56. (MLRA 10:1)

(Livshits, Solomon Mikhailovich, 1901-1956)

PAVLOV, L.I., inzhener; FRENKEL', S.N., inzhener.

Using electric power for heating dwellings, municipal and industrial buildings. Nov.tekh.i pered.op.v stroi. 18 no. 8:30-31 Ag. '56. (MLRA 9:10)

(Electric heating)



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Composition for retarding the aging of electric-insulating rubber. P. S. Il'in, Ya. N. Kaplunov, S. N. Frenkel, V. M. Puntenko, Ya. M. Glapushkin, and G. I. Dubrovin. U.S.S.R. 107,136, Oct. 25, 1957. Rubber cable covers are protected by coating them with a liquid mixt. of polychloroprene rubber with fillers and plasticizers to which mercaptans and oxides of bivalent metals are added. M. Hosch

KHRAMUSHIN, A.M., inzh.; FRENKEL', S.N., inzh.

Growth of designing and installation organizations concerned with the electrification of industry in the U.S.S.R. Nov. tekh. i pered. op. v stroi., no.11:18-24 N '57. (MIRA 10:12)
(Electrification)