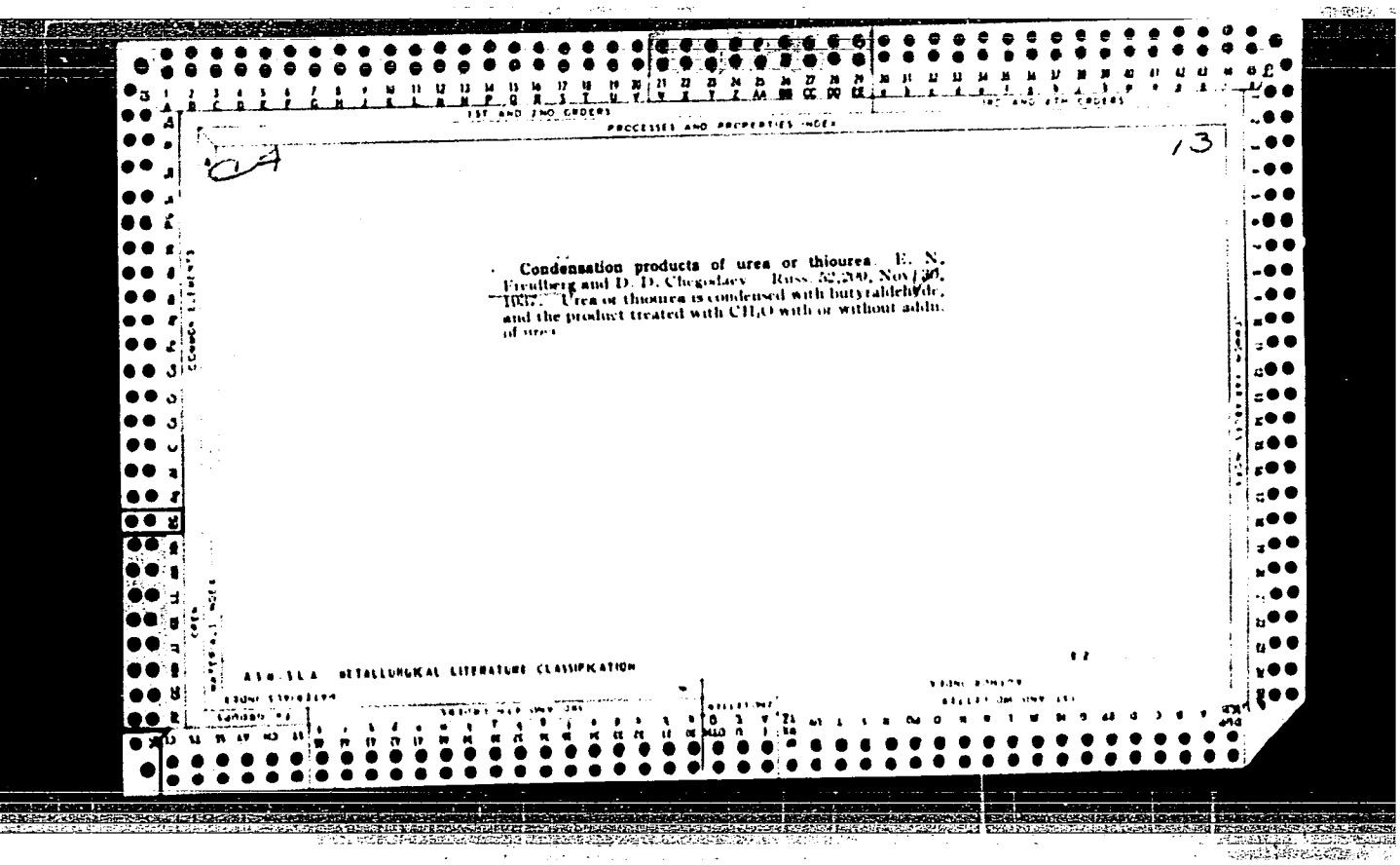


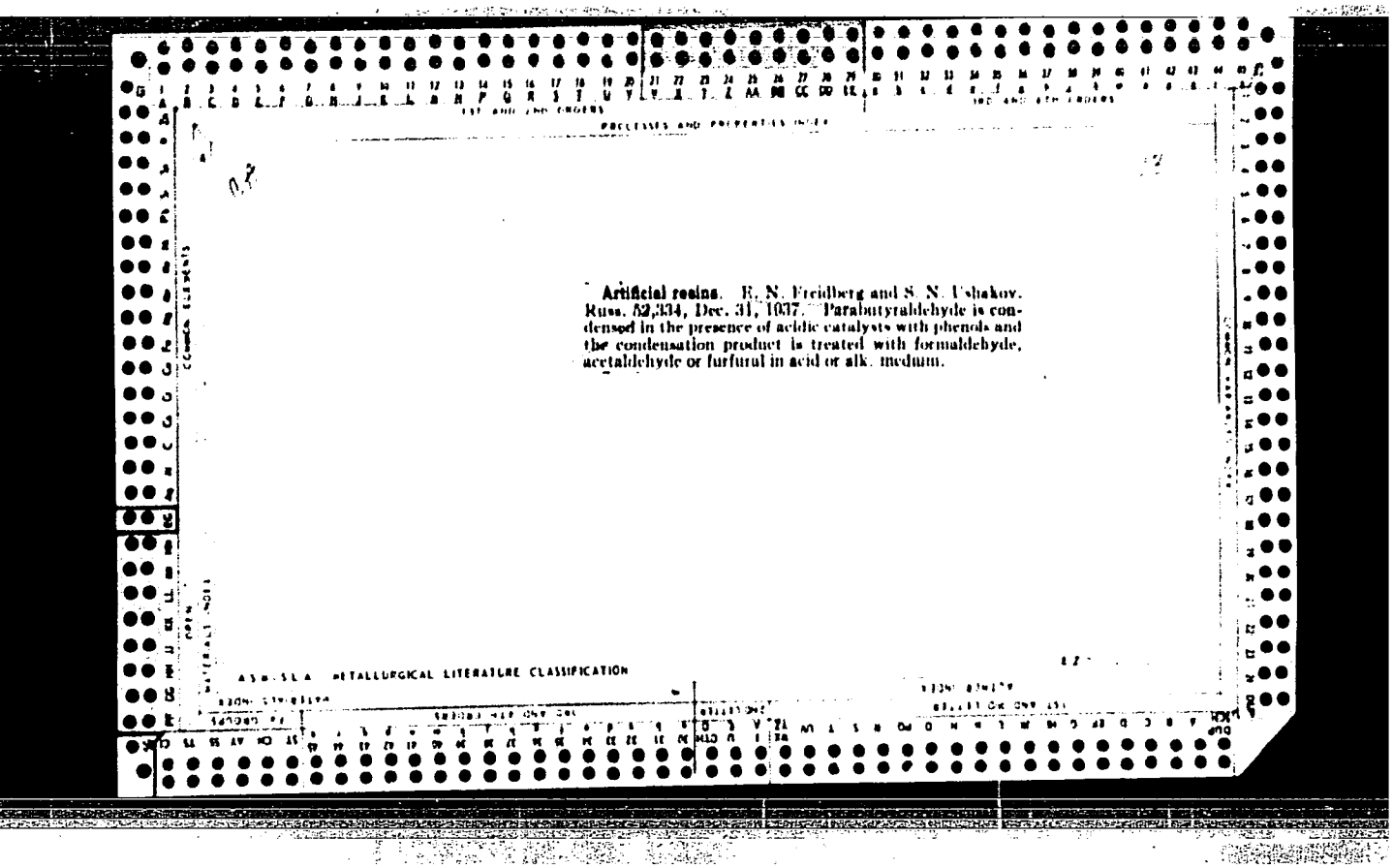
PROCESSES AND PROPERTIES INDEX

CA

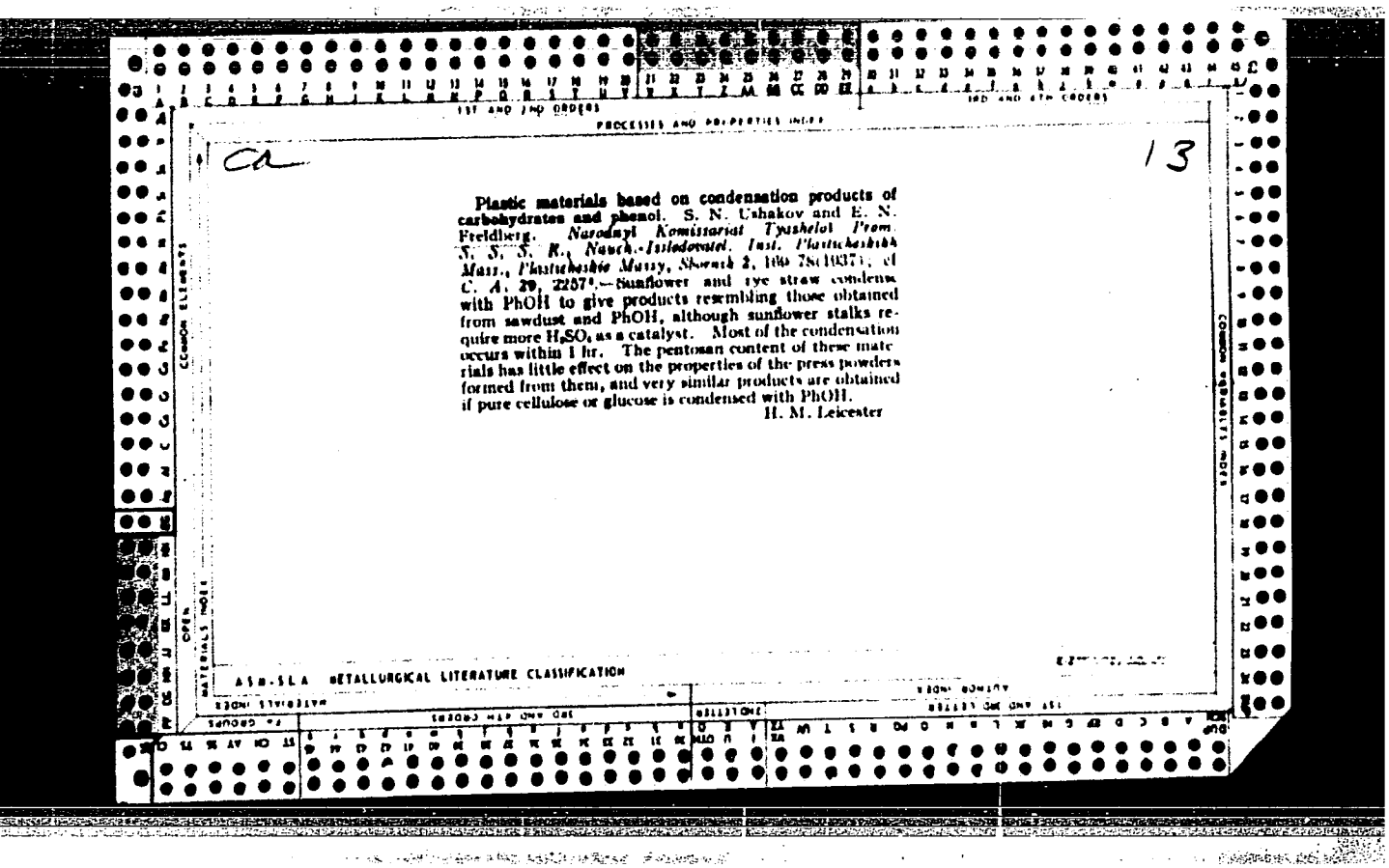
13

Condensation products of urea or thiourea. E. N. Friedberg and D. D. Chegodaev. Russ. 52,259, Nov. 30, 1937. Urea or thiourea is condensed with butyraldehyde, and the product treated with CH_2O with or without addn. of urea.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Artificial resins. B. N. Freidberg and S. N. Ushakov. Russ. 52,334, Dec. 31, 1937. Parabutyraldehyde is condensed in the presence of acidic catalysts with phenols and the condensation product is treated with formaldehyde, acetaldehyde or furfural in acid or alk. medium.

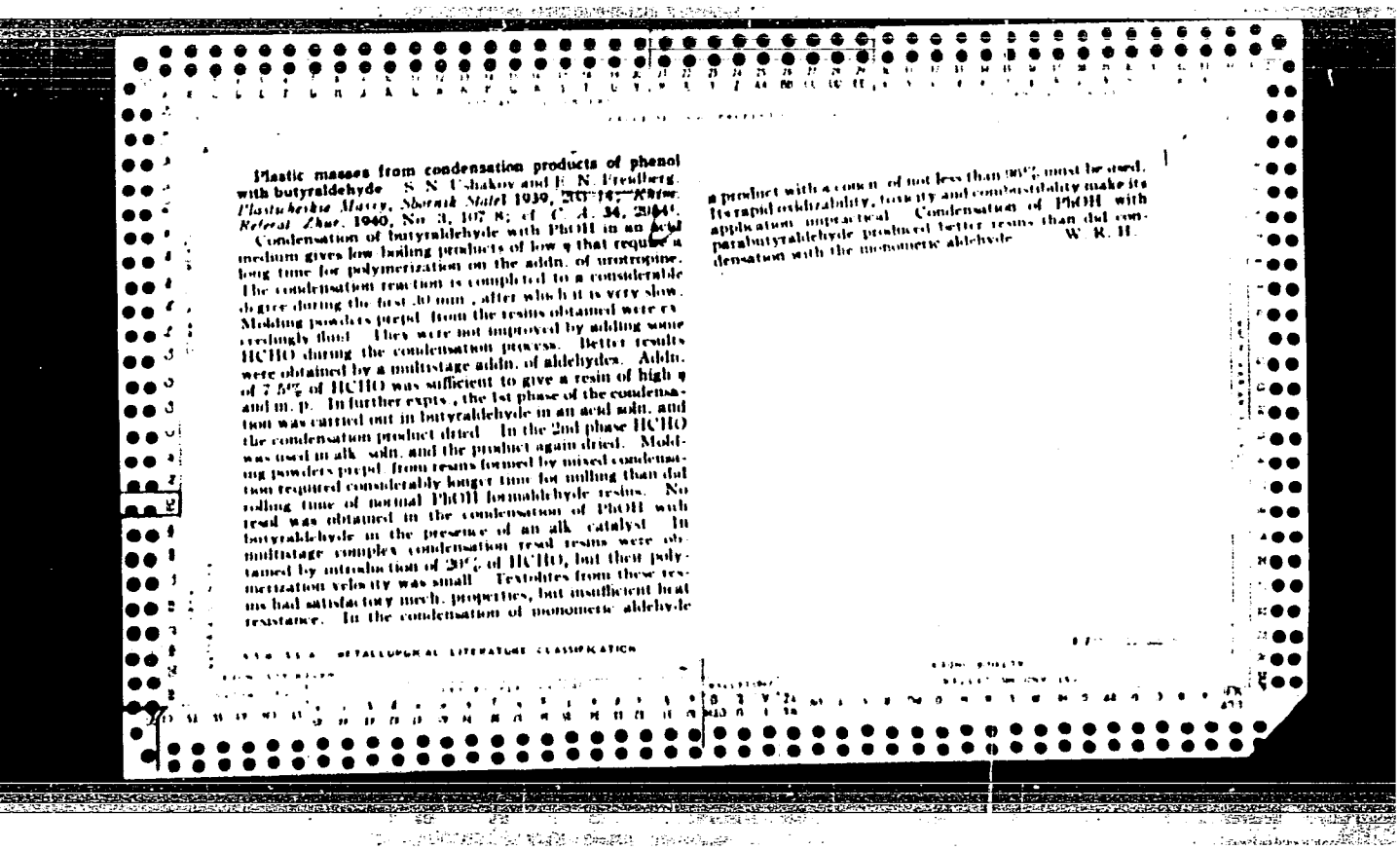


13

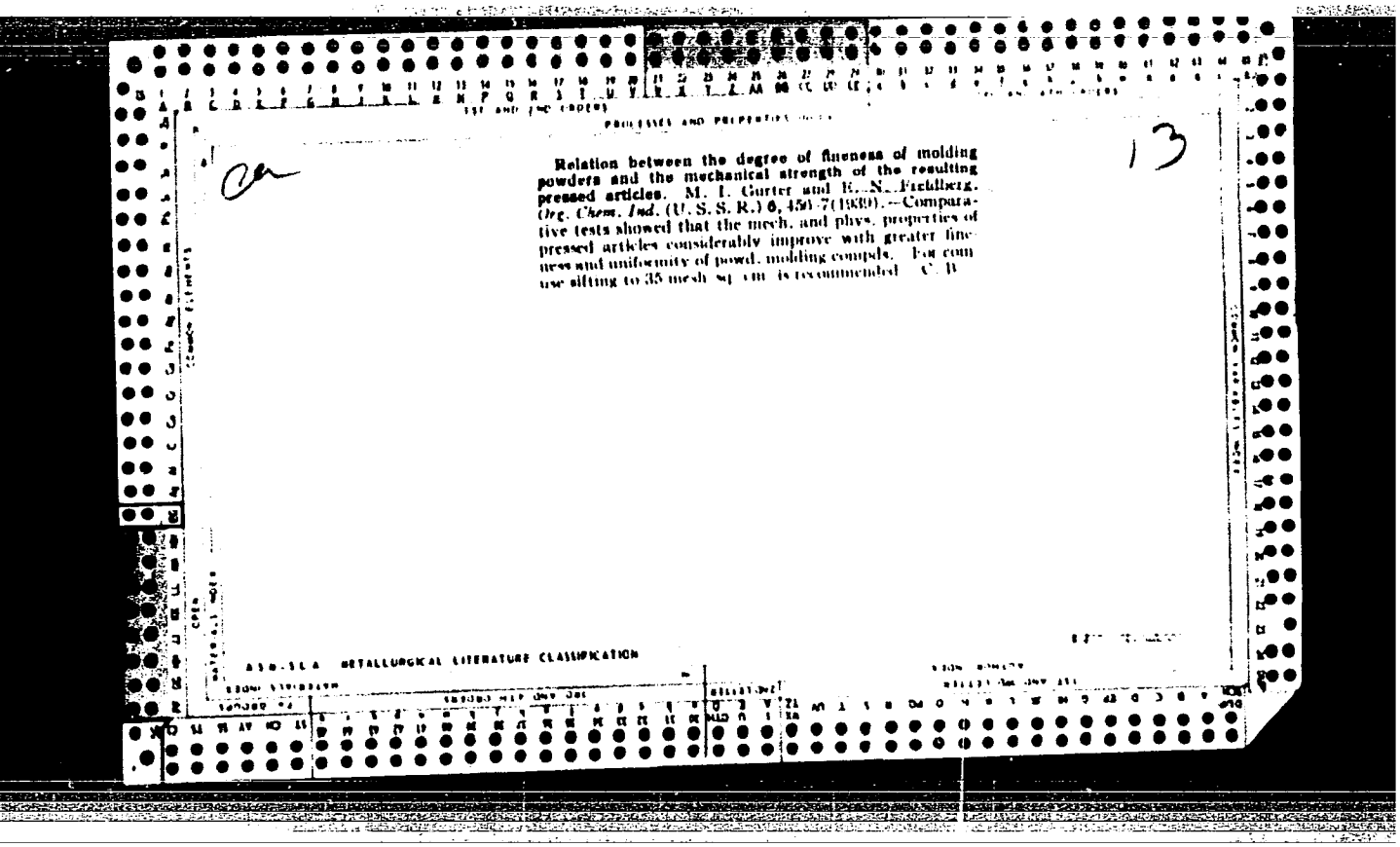
Plastic materials based on condensation products of carbohydrates and phenol. S. N. Ushakov and E. N. Freidberg. *Narodnyi Komissariat Tyazhelol Prom. S. S. S. R., Nauch.-Issledovatel. Inst. Plastitcheskikh Mass., Plastitcheskie Massy, Sbornik* 2, 100-78(1937); cf *C. A.* **29**, 2257⁹.—Sunflower and rye straw condense with PhOH to give products resembling those obtained from sawdust and PhOH, although sunflower stalks require more H_2SO_4 as a catalyst. Most of the condensation occurs within 1 hr. The pentosan content of these materials has little effect on the properties of the press powders formed from them, and very similar products are obtained if pure cellulose or glucose is condensed with PhOH.

H. M. Leicester

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Plastic masses from condensation products of phenol with butyraldehyde S. N. Ushakov and E. N. Freidberg. *Plasticheskie Massy, Sbornik Statei* 1939, [illegible]. *Referat. Zhur.* 1940, No 3, 107-8; cf. *C. A.* 34, 2304[illegible]. Condensation of butyraldehyde with PhOH in an acid medium gives low boiling products of low η that require a long time for polymerization on the addn. of urotropine. The condensation reaction is completed to a considerable degree during the first 30 min., after which it is very slow. Molding powders prepd. from the resins obtained were excessingly fluid. They were not improved by adding some HCHO during the condensation process. Better results were obtained by a multistage addn. of aldehydes. Addn. of 7.5% of HCHO was sufficient to give a resin of high η and m. p. In further expts., the 1st phase of the condensation was carried out in butyraldehyde in an acid soln. and the condensation product dried. In the 2nd phase HCHO was used in alk. soln. and the product again dried. Molding powders prepd. from resins formed by mixed condensation required considerably longer time for milling than did resol resins of normal PhOH formaldehyde resins. No resol was obtained in the condensation of PhOH with butyraldehyde in the presence of an alk. catalyst. In multistage complex condensation resol resins were obtained by introduction of 30% of HCHO, but their polymerization velocity was small. Textolites from these resins had satisfactory mech. properties, but insufficient heat resistance. In the condensation of monomeric aldehyde a product with a content of not less than 80% must be used. Its rapid oxidizability, toxicity and combustibility make its application impractical. Condensation of PhOH with paraldehyde produced better resins than did condensation with the monomeric aldehyde. W. R. H.



Relation between the degree of fineness of molding powders and the mechanical strength of the resulting pressed articles. M. I. Gurter and E. N. Fridlberg. *Org. Chem. Ind.* (U. S. S. R.) **6**, 459-7(1939).—Comparative tests showed that the mech. and phys. properties of pressed articles considerably improve with greater fineness and uniformity of powd. molding compds. For commuse sifting to 35 mesh sq. cm. is recommended. C. B.

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Synthesis of *m*-iodostyrene. S. N. Ushakov and E. N. Preidberg. (Polymer. Plastics Inst., Leningrad). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1950, 208-75.—Addn. of 100 g. BzIl to 110 g. KNO_3 in 325 g. concd. H_2SO_4 at 5° over 4-5 hrs. and dilu. with H_2O gives 40-41% *m*-$O_2NC_6H_4CHO$, m. 54°, along with some 25% *o*-isomer which remains in the mother liquor. At 25-35° the yield of *m*-isomer is raised to 75-85%. Addn. of the product with stirring to $SnCl_2$ in HCl with cooling (spontaneous rise of temp. to 60-80)° occurs in spite of cooling), followed by diazotization at 2° with $NaNO_2$, addn. of KI soln. at 5°, letting stand 12 hrs., and heating 1 hr. to 80-90° gave *m*-IC_6H_4CHO. The use of a very high proportion of HCl (40 mols.) gives poorer results (15-20% yield) than 8 moles HCl (theoretical amt.), which gave 28%, or 10-11 moles HCl (39-41% yield); the product, isolated by steam distn., m. 56-7°. The reaction of this with MeMgI conducted as usual in Et_2O gave 70% *m*-$IC_6H_4CH(OH)Me$, b. 119-20°, d_4^{20} 1.707, n_D^{20} 1.6215. Dehydration of this by passage over Al_2O_3 at 300° proceeds well for 15-20 min. with formation of 98% pure product, after which period decompn. begins and iodine is evolved; the same occurs at 250-70°. Distn. of the carbinol with $KHSO_4$ in the presence of hydroquinone (0.1-0.2%) at 100-20° and 50-60 mm. in a CO_2 atm. gave a 71-4% yield with 13-14% (by wt.) of $KHSO_4$; a smaller ratio of $KHSO_4$ gave lower yields. The pure *m*-$IC_6H_4CH{:}CH_2$, b. 69-71°, b. 71-3°, d_4^{20} 1.674, n_D^{20} 1.6890, polymerizes with 0.1% Bz_2O_2 in 1-2 hrs. at 80-100° to a clear solid polymer, d_4^{20} 1.80, n_D^{20} 1.6850 (highest among org. polymers). G. M. Kosolapoff

[illegible], M. M.

S. M. Ushakov and Y [illegible] M. Fraidzon

"The Synthesis of m-Iodostyrene." Reports of the Academy of Sciences, USSR, Department for Chemical Sciences, 1950, 268-275, Leningrad, Scientific Research Institute for Polymerization-Plastics.

ABSTRACT AVAILABLE

D-50054

USSR/ Analytical Chemistry. Analysis of Inorganic Substances. G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27151.

Author : L.I. Chuyenko, M.V. Freyde.

Inst : All-Union Scientific Research Institute of Geology.

Title : Determination of Strontium and Barium in Barytic Rocks Containing either No Calcium, or Small Amounts Thereof.

Orig Pub: Inform. sb. Vses. n.-i. geol. in-ta, 1956, No. 3, 128 - 131.

Abstract: The quantitative determination of alkali elements is carried out by precipitation of $BaCrO_4$ and separation of moist nitrates of Sr and Ca by the acetone method, if their contents in the sample were small (1 to 3% of Sr and tenths of a percent

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USSR/ Analytical Chemistry. Analysis of Inorganic Substances. G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27151.

of Ca). After the precipitation of $BaCrO_4$, the filtrate is acidified with HCl, 2 to 4 ml of 1.5%-ual $CaCl_2$ solution, saturated $(NH_4)_2C_2O_4$ solution and ammonia are added, the mixture is boiled and kept in a warm place 2 to 4 hours. The oxalates are filtered off, washed, dissolved in HNO_3 and precipitated again. The reprecipitated oxalates are filtered off 2 to 3 hours later, washed and calcined into oxides, which are dissolved in HNO_3 and condensed by evaporation to the state of moist salts. If the content of CaO was $\leq$ 0.03 g and that of SrO was $\leq$ 0.05 g, 20 to 25 ml of acetone are added and stirred energetically 2 to 3 hours in cool. The insoluble residue of $Sr(NO_3)_2$ is filtered off, washed with acetone 4 to 5 times, dissolved in water and precipitated

Card 2/3

USSR/ Analytical Chemistry. Analysis of Inorganic Substances. G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27151

with sulfuric acid (1 : 1); the precipitate of $SrSO_4$ is calcined until its weight remains constant and weighed. The acetone solution is evaporated, HNO_3 is added and it is diluted with water; Ca is precipitated with ammonium oxalate; the precipitate is calcined until it is converted in CaO.

FREYDE, N.

IVANOV, G., inzhener; FREYDE, N., inzhener.

Improvements in coal surveying efficiency. Mast.ugl. 3 no.9:13-16 S '54. (MLRA 8:2)
(Mine surveying)

SLONIMSKIY, A.D., inzh.; FREYDGEYM, L.I., inzh.

Device for reloading piece goods. Mekh.i avtom.proizv. 17 no.11:32-33 N '63. (MIRA 17:4)

FREYDEL', R.R.

The EPP-09 automatic electron potentiometer (compensator). [Izd.] Sekts. prib. tepl. kontr. LONITOPRIBOR no.2:189-206 '54
(Potentiometer) (MLRA 8:6)

FREYDEL', R.R.

Vibratory converters (control, repair and process of aging)
[Izd.] Sekts. prib. tepl. kontr. LONITOPRIBOR no.2:207-213
'54. (MLRA 8:6)
(Electric current converters)

9(6) SOV/112-59-3-5257

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 3, p 136 (USSR)

AUTHOR: Kurushin, A. S., and Freydel', R. R.

TITLE: New Electron Measuring Devices (Novyye elektronnyye pribory)

PERIODICAL: V sb.: Atom. energiya v mirnykh tselyakh. L., Gosenergoizdat, 1957, pp 209-210

ABSTRACT: A short announcement of general-purpose automatic electron devices for measuring, recording, and controlling temperature from -200 to +2,500°C, pH, air humidity, and gas humidity; the instruments are built at the "Lenteplopribor" plant. The plant also manufactures automatic instruments for remote control used in the atomic industry. An EPPV-51 electron device is intended for measuring currents 0 to 2.6×10^{-8} amp, 8.5×10^{-9} amp, 2.6×10^{-9} amp, and 6×10^{-10} amp. An EPPV-21 modification of this instrument permits transmitting the readings at a distance up to 200 m to an EMP-69 secondary instrument. Type AESM-50 instrument is intended for remote

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New Electron Measuring Devices

measuring of small currents in the scale spans 0-30 and 0-300 microamp. Type EPI-50 instruments permit measuring low voltages at more than 200 points.

E.A.Ye.

R.E.

FREYDEL', P.P.

Electronic automatic hydrogen-ion concentration meters and psychrometers. [Trudy] LO NTO Priborprom no.4:125-140 '59.
(MIRA 13:2)

(Hygrometry)
(Hydrogen-ion concentration--Measurement)

S/123/61/000/007/018/026
A004/A104

AUTHOR: Freydel', R.R.

TITLE: New devices of the "Lenteplopribor" Plant

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 7, 1961, 7, abstract 7D64 (V sb.: Teploenerg. i khimiko-tekhnolog. pribory i regulyatori. Moscow - Leningrad, Mashgiz, 1959, 141 - 152)

TEXT: It is pointed out that, owing to the modernization of the ЭПП -09 (EPP-09) electronic automatic potentiometer, the possibility is reduced of a misalignment occurring between the positions of the carriage recording drum and the multiple-point throwover switch. The plant has designed: 1) stepped СИП-01 (SIP-01) pulse circuit breaker, converting continuous signals of the position regulating device into interrupted ones. The duration of the pulse transmission period is 15, 30, 60, 120 seconds. 2) ИПУ -01 (IPU-01) measuring and checking device manufactured in the form of a portable metallic suitcase with the dimensions 480 x x 260 x 260 mm. With this device it is possible to check: a) the measuring circuits of electronic automatic potentiometers, balanced bridges, and other electric measuring devices for temperature measurements; b) sensitivity and reversal of

Card 1/2

New devices of the "Lenteplopribor" Plant

S/123/61/000/007/018/026
A004/A104

d-c and a-c amplifiers; c) vibration converters as to the duration of simultaneous making and breaking of a circuit, and connecting symmetry; d) three-position control device operating with the aid of signal lamps; e) attachment of proportional and isodromic control and actuating mechanisms; f) instruments fitted with devices for the electric and isodromic control. 4) Devices with a differential and transformer induction measuring system.

G. Flidlider

[Abstracter's note: Complete translation]

Card 2/2

33169
S/148/61/000/011/014/018
E193/E383

9,2460 (1001, 1153, 1385)

AUTHORS: Mes'kin, V.S., Sergiyenko, R.I., Popova, L.A. and Freydel', R.R.

TITLE: Search for corrosion- and wear-resistant alloys for precision electrical resistance devices

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 11, 1961, 159 - 164

TEXT: The conventional electrical resistance alloys, exemplified by manganin and similar Cu-Ni-Mn alloys, although satisfactory from the point of view of the electrical properties, have a low resistance to the action of some corrosive media (sulphur-bearing or ammoniacal atmospheres) and are not always suitable for service in tropical or marine surroundings. A hard-wearing alloy, free from these limitations, would solve many design problems and it was for this reason that the present investigation, concerned with Pd-W and Pd-Mo alloys, was undertaken. The experimental specimens were prepared by drawing molten alloys into quartz tubes (2.3 - 3 mm in diameter), preheated to 800 °C and swaging the resultant rods to 1.2 - 1.5 mm

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Search for corrosion- and ....

in diameter. After a series of exploratory measurements, alloys of practical interest were drawn to wires 0.2 - 0.25 mm in diameter which were then used for the determination of electrical resistivity, ρ, temperature coefficient of electrical resistance, α_t, and thermo-emf against copper, E. The measurements were taken on specimens either cold-worked to approx. 50% reduction or vacuum-annealed. The results are reproduced graphically.

In Fig. 1, ρ (ohm mm^2/m, graph a), α_t (x 10^4, graph b) and E ($\mu V/^oC$, graph c) are plotted against the W content (wt.%) in the Pd-W alloys, vacuum-annealed at 700 ^oC; the curve in Fig. 1 has been divided into two branches, scale on the right-hand side relating to branch 1; experimental points denoted by circles had been obtained earlier (Ref. 1: V.A. Nemilov, A.A. Rudnitskiy - Izvestiya sektora platiny IONKh AN SSSR, 1949, no.23, 101). Since the temperature-dependence of ρ in the 15 - 90 ^oC range was linear, data reproduced in Fig. 1,

Card 2/8 5

Search for corrosion- and ....

relate the entire 15 - 90 °C range. The concentration dependence of D, α_R and E of the Pd-Mo alloys is demonstrated in a similar manner in Fig. 3a, 5 and 6, respectively. It will be seen that in respect of their electrical properties the Pd-Mo alloys are inferior to Pd-W alloys. Since, in addition, they have some other shortcomings, the most promising of the Pd-W alloys (i.e. the 20% W-Pd alloy) denoted by a code mark PV 20 (PV20) was selected for further tests. The results of contact resistance measurements, carried out on wires 0.25 mm diameter, are reproduced in Fig. 4, where the contact resistance (ohm) is plotted against the contact pressure (g). Curves 1-5 relating to the following experimental conditions: 1 - PV20 in contact with itself (both wires vacuum-annealed at 800 °C); 2 - manganin in contact with manganin; 3 - PV20 in contact with PV20; both specimens preliminarily held for 24 h in a sulphurous atmosphere (0.02 g of SO_2 per 1 dm^3 of air); 4 - PV20 in contact with PV20; both wires preliminarily held for 24 h at 55-60 °C

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in air of 98% humidity; 5 - PV20 in contact with PV20, both wires preliminarily held for 36 h in a 25% ammonia solution (it is stated in this connection that contact resistance between manganin wires held preliminarily for 24 h in ammonia solution was infinitely large). In the next series of experiments the stability of ρ was studied. The specimens were heated in air at 100 °C for 3 h and after a 24 h interval their ρ at room temperature was measured, this treatment being repeated several times. The results are reproduced in Fig. 5, where the change in resistivity (%) due to cyclic heating is plotted against the total time (hours) at 100 °C, Curves 1 - 3 relating to various PV20 specimens, Curve 4 to manganin (the effect of similar treatment in boiling water was more pronounced, the increase in ρ of PV20 after 25 cycles amounting to 1.75%). Since after cyclic heating of the PV20 alloy its ρ at room temperature remained practically constant, this treatment should provide effective means of stabilizing ρ of this alloy. UTS and elongation of PV20 were respectively, 133 kg/mm^2 and 1% in

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the cold-worked condition, and 83.2 kg/mm^2 and 25.3% after annealing. Wear-resistance of this alloy was also found to be much better than that of manganin. It was concluded that high strength combined with good wear- and corrosion-resistance render the PV20 alloy suitable for some applications. Since, however, this alloy is inferior to manganin in respect of its electrical properties (α and E), search should be continued for a material with better electrical properties which, at the same time, would be cheaper and easier to produce.
There are 5 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Leningradskiy institut aviatsionnogo pribor-ostroyeniya i zavod "Lenteplopribor"
(Leningrad Institute of Aviation Instruments and "Lenteplopribor" Works)

SUBMITTED: February 22, 1961

Card 5/5

FREYDEL', R.R.

New electronic control devices for thermal electric power systems. Prib. i sred. kompl. avtomatiz. no.2:3-13 '63.

(MIRA 17:12)

VASIL'YEV, G.V., inzh.; FREYDEL', R.V., inzh.

Automatic control, regulation, and signalization on the whaling and whale processing plant "Slava." Sudostroenie 25 no.7:15-18 Jl '59. (MIRA 12:12)
(Whalers) (Automatic control)

ACC NR: AP7001520 (N) SOURCE CODE: UR/0229/66/000/011/0060/0061

AUTHOR: Freydel', R. V.

ORG: None

TITLE: Use of molykote in maritime machine building

SOURCE: Sudostroyeniye, no. 11, 1966, 60-61

TOPIC TAGS: molybdenum disulfide, machine tool, solid lubricant, marine equipment

ABSTRACT: The author discusses the lubricating properties of natural molybdenum disulfide (molykote) with application to maritime machine building. Methods of surface treatment are briefly considered as well as various procedures for application of the lubricant to metal surfaces. These procedures include holding in an aqueous suspension for 5-20 minutes with subsequent drying at 60-80°C, rubbing with molykote powder, brush application with subsequent baking, rubbing with a special pencil, spraying (useful for parts with complex configurations) and ultrasonic application (where the surface requires no chemical cleaning). Data are given on the use of molykote to increase the durability of bits, cutting tools, dies, punches, etc. Lubricants based on molybdenum disulfide mixed with mineral oils in various consistencies and with various additives are used in the Soviet Union on deck winches, capstans, windlasses and various types of cargo-handling equipment. It is pointed out that molykote is used on some non-Soviet ships for lubricating the piston rings and cylinder sleeves in the main engine. Orig. art. has: 1 figure.

SUB CODE: 13, 11/ SUBM DATE: None/ ORIG REF: 001/ OTH REF: 002

Card 1/1

UDC: 669.28

BAYEVSKIY, R.M.; ZIL'BERTAL', Ye.A.; KRUZENSHTERN, V.M.; FREYDEL', V.R.

Use of automatic logical devices for medical control. Biul. eksp. biol. i med. 56 no.8:116-120 Ag '63. (MIRA 17:7)

1. Predstavleno deystvitel'nym chlenom AMN SSSR V.V. Parinym.

AKULINICHEV, Ivan Timofeyevich; BAYEVSKIY, Roman Markovich; ZAZYKIN, Konstantin Pavlovich; FREYDEL', Vladimir Rafailovich; KLEVTSOV, M.I., red.; LARIONOV, G.Ye., tekhn.red.

[Radio electronics in space medicine] Radioelektronika v kosmicheskoi meditsine. Moskva, Izd-vo "Energiia," 1964. 43 p. (Massovaia radiobiblioteka, no.505). (MIRA 17:4)

AKULINICHEV, I.T.; ANDREYEV, L.F.; BAYEVSKIY, R.M.; BAYKOV, A.Ye.: BUYLOV, G.G. GAZENKO, O.G.; GRYUNTAL', R.G.; ZAZYKIN, K.P.; KLIMENTOV, Yu.F.; MAKSIMOV, D.G.; MERKUSHKIN, Yu.G.; MONAKHOV, A.V.; PETROV, A.P.; RYABCHENKOV, A.D.; SAZONOV, N.P. ; UTYAMYSHEV, R.I.; FREYDEL', V.R.; KHIL'KEVICH, B.G.; SHADRINTSEV, I.S.; SHEVANDINA, S.B.; ESAULOV, N.G.; YAZDOVSKIY, V.I.

Method and means of medical and biological studies in a space flight. Probl. kosm. biol. 3:130-144 '64. (MIRA 17:6)

L 03179-67

ACC NR: AP6033118 SOURCE CODE: UR/0239/66/052/010/1273/1275

AUTHOR: Bayevskiy, R. M. (Moscow); Ivanov, V. A. (Moscow); Monakhov, A. V. (Moscow); Freydel', V. R. (Moscow)

ORG: none

42
B

TITLE: The pneumocardiophone

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 52, no. 10, 1966, 1273-1275

TOPIC TAGS: human physiology, respiratory physiology, circulatory physiology, medical equipment, pulse rate, respiration rate, biotelemetry, pneumocardiography, PHYSIOLOGIC PARAMETER, BIOLOGIC RESPIRATION, PHONOCARDIOGRAPHY

ABSTRACT: A simple system for continuously monitoring pulse and respiration rates over long periods of time is described. A record can be made with any single-channel recorder; the output can also be connected with an amplifier-speaker system or displayed on an oscillograph. Signals from a respiration sensor in which make-and-break is accomplished by expansion and contraction of the rib cage, and cardiac biocurrents, are used as input signals. Silver electrodes 18—20 mm in diameter are held over the fifth intercostal space along the medial axillary line by an elastic harness to which the respiration sensor is also attached (see Fig. 1). The basic idea of the system is the single-channel recording of two parameters. This is done by shaping cardiac biopotentials corresponding to the R rhythm into square pulses whose duration or amplitude is determined by the respiration sensor. Respira-

 UDC: 612.171(018)

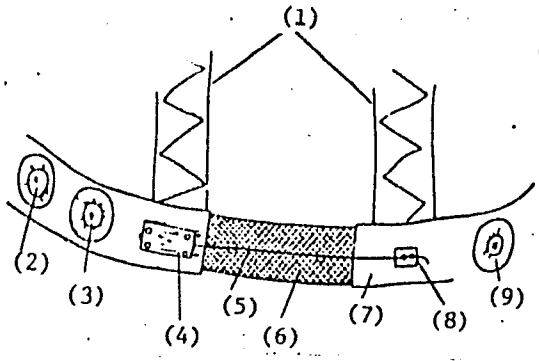

Fig. 1. Harness for pneumocardiophone

1 - Shoulder straps; 2 - electrode; 3 - neutral electrode; 4 - respiration sensor; 5 - anchor cord; 6 - elastic insert; 7 - web belt; 8 - cord anchor; 9 - electrode.

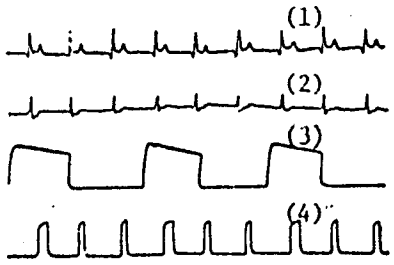

Fig. 2. EKG, PG, and PKG traces compared.

tion signals are thus read from the duration or amplitude of the pulse signals. In the pulse duration modulation setup, the R-wave peak is formed into a square pulse

L 03179-67
ACC NR: AP6033118

lasting 100—150 msec during exhalation (contact closed) and 200—300 msec during inhalation (contact open). These pulses can also be used to generate an acoustic signal. Fig. 2 shows EKG (1 and 2) and pneumogram (3) traces, and a simultaneously recorded pneumocardiophone (4) trace. Orig. art. has: 3 figures.

SUB CODE: 06/ SUBM DATE: 10Apr65/ ORIG REF: 003/ ATD PRESS: 5099

Card 3/3 LC

STRELOV, K.K.; MAMYKIN, P.S.; Prinimali uchastiye: BAS'YAS, I.P.; BICHURINA, A.A.; BRON, V.A.; VECHER, N.A.; VOROB'YEVA, K.V.; D'YACHKOVA, Z.S.; D'YACHKOV, P.N.; DVORKIND, M.M.; IGNATOVA, T.S.; KAYBICHEVA, M.N.; KELAREV, N.V.; KOSOLAPOV, Ye.F.; MAR'YEVICH, N.I.; MIKHAYLOV, Yu.F.; SEMKINA, N.V.; STARTSEV, D.A.; SYREYSHCHIKOV, Yu.Ye.; TARNOVSKIY, G.I.; FLYAGIN, V.G.; FREYDENBERG, A.S.; KHOROSHAVIN, L.B.; CHUBUKOV, M.F.; SHVARTSMAN, I.Sh.; SHCHETNIKOVA, I.L.

Institutes and enterprises. Ogneupory 27 no.11:499-501 '62. (MIRA 15:11)

1. Vostochnyy institut ogneuporov (for Strelov). 2. Ural'skiy politekhnicheskiy institut im. S.M. Kirova (for Mamykin).
(Refractory materials--Research)

GERMAIDZE, G.Ye.; KORSHUNOV, V.S.; KHOROSHAVIN, L.B.; FREYDENBERG, A.S.; GAMZA, D.N., red.

[Heating up and rapid fritting of open-hearth furnace hearth bottoms]Razogrev i skorostnoe navarivanie poda martenovskikh pechei. [By] G.E.Germaidze i dr. Moskva, Metallurgiia, 1964. 110 p. (MIRA 17:11)

FREYDENBERG, A.S.; DIKSHTEYN, Ye.I.; TRIFONOV, A.G.; ARTAMONOV, M.P.; TVOROGOV, A.R.; SHAKHLIN, V.I.; TARASOV, A.F.

Repair of tapping holes on open-hearth furnaces. Metallurg 9 no.7:20-22 Jl '64. (MIRA 17:8)

1. Magnitogorskiy metallurgicheskiy kombinat.

SEMENENKO, P.P.; BARYSHNIKOV, G.I.; FILATOV, V.P.; BAS'YAS, I.P.; FREYDENBERG, A.S.; GUDOV, V.I.; TARNOVSKIY, G.A.

Ramming the upper working layer of open-hearth furnace hearths. Metallurg 10 no.4:14 Ap '65. (MIRA 18:7)

BARYSHNIKOV, G.I.; FREYDENBERG, A.S.; GUDOV, V.I.

Rapid reconditioning of an open-hearth furnace hearth.
Metallurg 10 no.5:17-19 My '65. (MIRA 18:6)

SHCHEKIN, V.A.; ABDURAZAKOV, A.U.; YERSHOVA, Ye.M., kand. sel'-khoz. nauk, otv. red.; FREYDENBERG, E.D., red.; GUBAYDULLIN, S., tekhn. red.

[Fundamentals of animal husbandry] Osnovy zhivotnovodstva; uchebnik dlia uchashchikhsia IX klassov srednei shkoly. Izd.2. Tashkent, Sredniaia i vysshaia shkola, 1963. 138 p. (MIRA 17:1)

FREYDENBERG, M.D., redaktor; RAKHMATULLIN, F., tekhnicheskiy redaktor

[Advanced experience in silviculture in Central Asia] Peredovoi opyt lesorazvedeniia v Srednei Azii. Tashkent, Gos. izd-vo UzSSR. No.2. 1955. 69 p. (MIRA 9:10)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva.
(Soviet Central Asia--Forests and forestry)

AVERBUKH, Ovsey; FREYDENBERG, E.D., red.; AKHTYAMOVA, S., tekhn. red.

[Stories on the seven-year plan] Rasskazy o semiletnem plane. Tashkent, Fos. izd-vo "Sredniaia i vysshaia shkola" UzSSR, 1961. 137 p. (MIRA 14:11)

(Uzbekistan—Economic policy)

FREYDENFEL'D, Ye. Zh.

USSR.

The effect of some technological factors on the phase composition and the magnetic properties of nickel-zinc ferrites. N. A. Torofov, L. I. Rabkin, E. Zh. Freiden-feld, and R. Sh. Epshtein. *Zhur. Tekh. Fiz.* 23, 1031–7 (1953); cf. *C.A.* 48, 0000g.—Ni-Zn ferrites of equal magnetic properties can be made by (*a*) a mixt. of NiO, ZnO, and Fe_2O_3 in dctd. proportion, (*b*) coppta. of hydroxides and decompn. to oxides, (*c*) thermal decompn. of a mixt. of salts. Method *a* gives the most reactive, *c* the least reactive product. Longer sintering at 1200° and 1300° leads with the same material to higher permeability and larger losses. The samples sintered at 1180°–1200° do not contain magnetite; those sintered at 1350–1400° contain 0.2–1% magnetite. The limit of solid solu. is shown in a 3-component diagram, and it is compared with the diagram of magnetic permeability. The max. is on the line of 50 mol. % Fe_2O_3 corresponding to a substitutional-type solid soln. At a high content of ZnO the 2-phase solid solus. obtained have very low permeability. The permeability is increased by an increase in Fe_3O_4 content. For low-loss products it is recommended to sinter in O_2 at 1200–1250°. S. P.

6008

(3)

FREYDENFEL'D, Ye.Zh.

USSR

Phase composition and some ferromagnetic properties of manganese-zinc ferrites. N. A. Toropov, I. I. Rabkin, E. Zh. Freidenfel'd, and R. Sh. Epshtein. *J. Appl. Chem. U.S.S.R.* 26, 905-11(1953)(Engl. translation).—See *C.A.* 48, 10222*g*. H. L. H.

TOROPOV, N.A.; RABKIN, L.I.; FREYDENFEL'D, E.Zh.; EPSHTEYN, B.Sh.

Phase composition and certain ferromagnetic properties of manganese-zinc ferrites. Zhur.prikl.khim. 26 no.9:982-990 S '53. (MLRA 6:10)
(Phase rule and equilibrium) (Ferrites)

Dielectric properties of ceramics in the system CaO-BaO-TiO_2. A. A. Krutis, E. Fridenfeldes, and V. Friberga. *Latvijas P.S.R. Zinatnu Akad. Vestis* 1957, No. 7, 119-27(Russian summary).—The Seignette-salt properties of (Ca, Ba)TiO_3 bodies are most distinctly developed for ceramic bodies with more than 50 mol. % TiO_2. The BaTiO_3 compn. shows in the dielec. const. as a function of temp. (detd. at 1.5 Mc. and 1000 cycles) 3 characteristic max. at −20°, +15°, and +120°, connected with polymorphic inversions. With increasing Ca content these max. are reduced in the range of elevated temps.; the Curie temps. are changed over a range of 10°. Also the dielec. consts. at room temp. and the dielec. losses are reduced. The dielec. const. as a function of the voltage (measured for 50 cycles) becomes more linear. For bodies with 30-50 mol. % CaO, the dielec. const. is little changed by varying temp. and voltage. Bodies with 35 mol. % TiO_2 are unsuitable for condensor purposes because of their low dielec. consts. and high dielec. losses. [illegible] contain free CaO and BaO and therefore disintegrate to powder in the open air. If the [illegible] are fired from 65 to 80 mol. % [illegible] with [illegible] low dielec. consts. and higher dielec. losses, they contain $CaTiO_3$ and $BaTiO_3$ side by side, without cryst. solns. Since the sintering interval is very small (only 10-20°) there is a considerable difficulty in their com. production.

W. Eitel

Distr: 4E2c/4E3d/4E4c

SOV/137-58-7-14484

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 79 (USSR)

AUTHORS: Freydenfel'd, E.Zh., Sedmalis, U.Ya.

TITLE: Possibilities of Utilization of Manganous Open-hearth Slags for Production of Binder Compounds (Vozmozhnosti ispol'zovaniya margantsovistykh martenovskikh shlakov dlya proizvodstva vyazhushchikh veshchestv)

PERIODICAL: Zinatn. raksti. Latv. Univ., Uch. zap. Latv. un-t, 1957, Nr 14, pp 173-178

ABSTRACT: The open-hearth slags (S) investigated were taken from the waste of the Liyepaya "Krasnyy metallurg" [Red Metallurgist] plant (the S were primarily nongranulated). A sample of S of the following chemical composition was employed: 28.3% SiO_2, 37.0% CaO, 9.5% MgO, 9.4% Fe_2O_3, 6.2% Al_2O_3, 7.9% MnO, 1.5% P_2O_5. Eleven various mixtures were prepared (the only addition being sand, sand and gypsum, sand and Portland cement, sand and CaO and CaC_2). It was found that after being ground in a ball mill or a vibrating mill, the nongranulated S of the plant indicated exhibit a σ_b compr. of ~40 kg/cm^2 after having been stored in a moist medium for a period of 28 days.

Card 1/2

Possibilities of Utilization of Manganese Open-hearth Slags (cont.)

The binding compound thus obtained may be utilized in manufacture of slag-sand blocks employed in the construction of walls of small buildings as well as in the preparation of mortar solutions.

A.M.

1. Materials--Bonding 2. Slags--Applications

FREYDENFEL'D, E.Zh.; APSITIS, A.A.

The effect of different additions on the properties of titanium ceramics for capacitors. Zhur. prikl. khim. 30 no.9:1390-1394 S '57. (MIRA 11:1)
(Titanium) (Ceramic materials) (Condensers (Electricity))

EYDUK, Yu.Ya. [Eiduks, J.]; VAYVAD, A.Ya. [Vaivads, A.]; FREYDENFEL'D, E.Zh. [Freidenfeld, E.]

Physicochemical properties of α- and β- calcium sulfate semihydrates. Izv.vys.ucheb.zav.; khim.i khim.tekh. 2 no.6:920-925 '59. (MIRA 13:4)

1. Rizhskiy politekhnicheskiy institut. Kafedra neorganicheskoy khimicheskoy tekhnologii.
(Calcium sulfate)

FREYDENFEL'D, E.Zh.; APSITIS, A.A.; FRITSBERG, V.Ya.

Studying the crystal phases and some dielectric properties of components of the system CaO - BaO - TiO_2. Izv. vys. ucheb. zav.; fiz. no.4:68-71 '59. (MIRA 13:3)

1.Latviyskiy gosuniversitet im. P. Stuchki i Rizhskiy politekhnicheskiy institut.
(Titanium oxide) (Barium oxide) (Calcium oxide)

85886

24,7500 (1043, 1160)
24,7800 (1144, 1162)

S/048/60/024/011/022/036
B006/B060

AUTHORS: Fritsberg, V. Ya., Freydenfel'd, E. Zh., and Kruchan, Ya. Ya.

TITLE: Dielectric Properties and Structure of Solid Solutions of the $PbTiO_3$ - $SrTiO_3$ - "$Bi_{2/3}TiO_3$" System

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 11, pp. 1387-1390

TEXT: This is the reproduction of a lecture delivered at the Third Conference on Ferroelectricity which took place in Moscow from January 25 to 30, 1960. The authors studied the transition of the $PbTiO_3$ - $SrTiO_3$ - "$Bi_{2/3}TiO_3$" system from the typical seignettoelectric state into a state with relaxation polarization. The initial materials used for the preparation of the ceramic specimens were PbO, Bi_2O_3, TiO_2, and $SrCO_3$. The analyses of the specimens were accurate within 1.5% by weight. ε and $\tan\delta$ were measured by the usual methods in a wide frequency and temperature

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Dielectric Properties and Structure of Solid Solutions of the $PbTiO_3$ - $SrTiO_3$ - "$Bi_{2/3}TiO_3$" System

S/048/60/024/011/022/036
B006/B060

range, the seignettoelectric properties were studied at 50 cps, the X-ray analyses were made with an X-ray diffractometer of the type УРС-50И (URS-50I). The determination of the lattice parameters by the counting technique was accurate within ±0.002 kX. Two sections were examined in the ternary system (Fig. 1), wherein the ratios of $SrTiO_3$ and $PbTiO_3$ were constantly equal to 7:3 (A) and 4:6 (B), while the "$Bi_{2/3}TiO_3$" concentration varied from one compound to another. It was established by X-ray analysis that there actually is a range of solid solutions in the system and that the compounds of section A have a pseudocubic structure under only slight additions, while those relative to B are tetragonal (at room temperature). The lattice parameters of different compositions are given. Fig. 2 shows $\varepsilon(t)$ and Fig. 3 shows ε and $\tan\delta$ as functions of temperature t for compounds of section A and section B for different "$Bi_{2/3}TiO_3$" additions of 1 - 3 and 0 - 40 mole%. The following rules were established: 1) An increase of the "$Bi_{2/3}TiO_3$" content on a variation of

Dielectric Properties and Structure of Solid Solutions of the $PbTiO_3$ - $SrTiO_3$ - "$Bi_{2/3}TiO_3$" System

S/048/60/024/011/022/036
B006/B060

the ratio of $PbTiO_3$ and $SrTiO_3$ gives rise to an increase of the lattice tetragonality, while the phase transition shifts toward higher temperatures. 2) If there is more $PbTiO_3$ than $SrTiO_3$, the seignettoelectric character of the initial substance is basically conserved under an increase of the "$Bi_{2/3}TiO_3$" addition. 3) If, on the contrary, $SrTiO_3$ prevails, the introduction of the addition will give rise both to a shift of the phase transition to higher temperatures and to an enlargement of the phase transition region; at the same time, a relaxation can be observed in the dielectric polarization. The increase of lattice tetragonality on the introduction of the addition can be explained by the high polarizability of the bismuth ion. The authors finally thank G. A. Smolenskiy for having proposed the subject and for his supervision, as well as I. Ye. Myl'nikova for advice given in regard of the preparation of specimens. There are 3 figures and 6 references: 5 Soviet and 1 Japanese.

Card 3/4

85886

Dielectric Properties and Structure of Solid Solutions of the $PbTiO_3$ - $SrTiO_3$ - "$Bi_{2/3}TiO_3$" System

S/048/60/024/011/022/036
B006/B060

ASSOCIATION: Latviyskiy gos. universitet im. Petra Stuchki (Latvian State University imeni Petr Stuchki). Rizhskiy politekhnicheskiy institut (Riga Polytechnic Institute)

Card 4/4

28303 S/081/61/000/016/006/040
B118/B101

15.2650
24,7500 (1160)

AUTHORS: Freydenfel'd, E. Zh., Fritsberg, V. Ya., Kruchan, Ya. Ya.

TITLE: Effect of addition of SiO_2 on the properties of polycrystalline $BaTiO_3$

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 16, 1961, 38, abstract 16B250(Uch.zap.Rizhsk.politekhn.in-ta, 2, 1959, 115-127)

TEXT: Addition of SiO_2 to $BaTiO_3$ (I) causes a decrease of the parameters and the tetragonality of the elementary cell, irrespective of the method of addition. This is obviously related to the formation of a solid solution of the substitution type. Of the new phases, the compound $BaTiSiO_5$ is formed first of all. Addition of SiO_2 shifts the Curie point of I by 25 - 30°C toward high temperatures, which also confirms the formation of a solid solution. Addition of SiO_2 lowers the dielectric constant and changes the parameters of the dielectric hysteresis loop. The residual

Card 1/2

28303 S/081/61/000/016/006/040
B118/B101

Effect of addition of SiO_2 ...

polarization is reduced while the coercive force is increased. If small amounts are added, the spontaneous polarization tends to increase, whereas it tends to decrease at high concentrations. [Abstracter's note: Complete translation.]

Card 2/2

S/058/63/000/002/042/070
A062/A101

AUTHORS: Freydenfeld, E. Zh., Fritsberg, V. Ya., Kruchan, Ya. Ya.

TITLE: Dielectric properties and structure of solid solutions in the $CaTiO_3$ - $Bi_{2/3}TiO_3$ system

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 64, abstract 2E420 ("Uch. zap. Rizhsk. politekhn. in-t", 1962, v. 6, 251 - 255)

TEXT: The existence of solid solutions was observed in the $CaTiO_3$ - $Bi_{2/3}TiO_3$ system for a content of $Bi_{2/3}TiO_3$ up to 25 - 30 mol%. In the indicated ceramic solid solutions, the water absorption, the lattice constant, the roentgenographic density, the microhardness and the dielectric properties were investigated. It is shown that at room temperature the crystal lattice is cubic, and that the lattice constant increases with the increase of the content of $Bi_{2/3}TiO_3$. The dielectric permittivity ε of the solid solutions increases as the content of the second component increases (from 150 to 220), and also as the temperature decreases. No maximum of ε and no hysteresis loops were observed down to the temperature of liquid air (the ferroelectric phase transition is possible at lower temperatures).

Card 1/2

S/058/63/000/002/042/070
A062/A101

Dielectric properties and structure of...

Relaxation phenomena were not observed in the frequency range from 200 cps to 200 kc and at temperatures from -170 to +150°C.

V. Petrov

[Abstracter's note: Complete translation]

Card 2/2

S/196/63/000/002/011/026
E194/E155

AUTHORS: Freydenfel'd, E.Zh., Fritserg, V.Ya., and Kruchan, Ya.Ya.

TITLE: The dielectric properties and structure of solid solutions in the system $CaTiO_3$ - BaTiO

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.2, 1963, 15, abstract 2 B 77. (Zinatn. raksti. Rigas politehn. inst., Uch. zap. Rizhsk. politekhn. in-ta, v.6, 1962, 251-255)

TEXT: Solid solutions of the system CaTiO - $Ba_{2/3}$ TiO_3 were investigated to find whether they show seignette-electric phase-transitions, by analogy with solid solutions of $SrTiO_3$-$Bi_{2/3}TiO_3$, and whether relaxation effects are observed in them. It is shown that the region of solid solutions of the systems investigated is limited to concentrations of 25-30% mole $Bi_{2/3}TiO_3$. At room temperature, X-ray structural analysis showed that the compositions had a cubic lattice in which the lattice constant a increased on increasing the content of $Bi_{2/3}TiO_3$. The table gives results of a

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study of the physical-chemical and ceramic properties of solid solutions of the system studied. Values of ε and tan δ of solid solutions were studied as functions of temperature in the range from 73 °K (-200 °C) to 423 °K (+150 °C), in the frequency range of 100 c/s to 200 kc/s. On increasing the concentration of $Bi_{2/3}TiO_3$ an increase in ε is observed. However, the temperature functions of ε and tan δ for solid solutions differ little from those for pure $CaTiO_3$. To verify the presence of the seignette-electric phase-transition presupposed by the authors, it is necessary to continue investigations of the dielectric properties down to helium temperatures. The hysteresis loops and relaxation effects were not observed in the investigated systems down to the temperature of liquid air.
2 figures. 8 references.

[Abstractor's note: Complete translation.]

Table

Molar composition, %		Max. 1st firing temp., °C	Max. 2nd firing temp., °C	Water absorption, %	Lattice const. kX	X-ray density g/cm^3	Microhardness kg/mm^3
calculated	analysis						
0	0	1300	1400	14.00	3.822	4.02	-
5	5.4	1200	1400	0.24	3.819	4.20	395
10	8.5	1200	1300	0.22	3.821	4.37	412
20	18.16	1100	1300	0.08	3.827	4.69	470
25	22.1	1100	1300	0.91	3.831	4.84	420
30	29.7	1100	1300	0.02	3.831	5.02	583
35	31.0	1100	1250	0.01	-	-	609

Card 3/3

L 7836-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AP5028117 SOURCE CODE: UR/0048/65/029/011/2046/2049

AUTHOR: Freydenfel'd, E.Zh.; Yanson, G.D.; Kruchan, Ya.Ya. 17

ORG: Riga Polytechnic Institute (Rizhskiy politekhnicheskiy institut); Latvian State University (Latviyskiy gosudarstvennyy universitet)

TITLE: Ferroelectric properties of solid solutions of bismuth and lanthanum ferrites in lead metaniobate [Report, Fourth All-Union Conference on Ferroelectricity held at Rostov-on-the Don 12-16 September 1964] III

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 11, 1965, 2046-2049

TOPIC TAGS: ferroelectric material, solid solution, bismuth, lanthanum, ferrite, lead, niobate, dielectric constant, dielectric loss, Curie point, lattice parameter

ABSTRACT: Continuing their earlier work on lead metaniobate based heterovalent solid solutions, the authors have investigated the ferroelectric and other properties of the $PbNb_2O_6$ - $Bi_2Fe_2O_6$ and $PbNb_2O_6$ - $La_2Fe_2O_6$ systems in order to determine the effect of replacing divalent lead by trivalent bismuth and lanthanum, and pentavalent niobium by trivalent iron on the ferroelectric Curie point and other properties of lead metaniobate and to explore the possibility of obtaining materials with peculiar dielectric and magnetic properties. The solid solutions were synthesized by solid state reaction of the oxides with double roasting in air. After a preliminary 1 hour heating at 1100° the bismuth ferrite solutions were held for 30 minutes at 1240-1270°,

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L 7836-66

ACC NR: AP5028117

and the lanthanum ferrite solutions at 1280-1300°. X-ray studies showed that in both systems solid solutions with the potassium-tungsten bronze structure were formed only over a narrow range (up to about 10 mole %) of ferrite content. The ceramic properties were studied, the lattice parameters were measured, dilatometric measurements were made, and the temperature dependences of the dielectric constant and the dielectric loss were investigated with experimental techniques that have been described elsewhere by E.Zh.Freydenfel'd, O.D.Yanson, and O.S.Maksimova (Izv. AN LatvSSR Ser. khim., 4, 345 (1963)). Thermographic measurements with a Kurnakov pyrometer revealed the transformation of PbO from one modification to another at 280-350° and the formation of $PbNb_2O_6$ at 530-850°. All the investigated solid solutions were ferroelectrics; the Curie point fell rapidly in both systems with increasing ferrite content. The temperature at which the dielectric constant peaked (the Curie point) did not vary with the measuring frequency over the range from 4 to 200 kilocycle/sec. The dielectric loss remained large below the Curie point, owing to the high electric conductivity. Orig. art. has: 4 figures and 1 table.

SUB CODE: SS, EM SUBM. DATE: 00/ ORIG. REF: 008 OTH REF: 005

Card 2/2 bpp

FREYDENFEL'D, E.Kh. [Freidenfelds, E.]; KRUGHAN, Ya.Ya.

Ferroelectric properties of solid solutions of bismuth ferrites and lanthanum in lead metaniobate. Vest. AN SSSR. Ser. fiz. 29 no.11:2046-2049 N '65. (MIRA 18:11)

1. Rizhskiy politekhnicheskiy institut i Latviyskiy gosudarstvennyy universitet.

UR/0363-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6030765 (A) SOURCE CODE: UR/0363/66/002/009/1563/1567

AUTHOR: Yanson, G. D.; Bindar, Ye. I.; Maksimova, O. S.; Freydenfel'd, E. Zh. 39 B

ORG: Riga Polytechnic Institute (Rizhskiy politekhnicheskiy institut) 27

TITLE: Kinetics of formation of certain lead compounds

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 9, 1966, 1563-1567

TOPIC TAGS: stoichiometric mixture, lead oxide, lead compound

ABSTRACT: Stoichiometric mixtures of oxides corresponding to $PbTiO_3$, $PbZrO_3$, and $PbNb_2O_6$ were wet-ground, pressed into disks, fired at 300-900°C for 30-180 min, sintered and tested for water absorption, linear shrinkage, weight loss, and phase composition by chemical and x-ray methods. Lead niobate started at about 300 and ended at 600°C. Formation of lead titanate proceeded at almost the same rate, starting at 550°C. Lead zirconate started to form at 650°C; it proceeded at a high rate and stopped at 900°C. The apparent energies of activation for lead titanate and zirconate are close to one another. For $PbNb_2O_6$ it is somewhat lower because formation takes place at a lower temperature. The Jander equation ($Q = 4.575\ tg\ \alpha$) (Z. *anorgan. allgem. Chem.*, 163, 1, 1927) is valid only for the initial stage of reaction; the Ginstiling equation (Z. *prikl. khimii*, 23, 1249; 25, 718(1952) gives more satisfactory results for the deter-

Card 1/2 UDC: 546.815 : 531.1

Card 2/2 LC

SVETOV, A.A., kand.tekhn.nauk; FREYDENFEL'D, O.K., inzh.

Tiles for easily detachable roofs of industrial buildings. Prom. stroi. 41 no.9:28-31 S '63. (MIRA 16:11)

FREYDENZON, A. I. Cand. Tech. Sci.

Dissertation: "Dynamic Theory for Calculating the Rods of a Deep Oil Pump Considering Friction." Moscow Order of the Labor Red Banner Petroleum Inst imeni Academicain I. M. Gubkin, 3 Jun 47.

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

FREYDENZON, A.I.
Applied Mechanics Review

Vibrations, Reciprocating

1633. J. A. Charom, A. J. Freidenzon, and Z. T. Arustamova, Dynamic calculation of rod of deep oil pumps considering the friction forces against the pump tubes (in Russian), Izv. Akad. Nauk SSSR Ser. tekh. Nauk 1949, no. 6, 855–878 (June 1949).

The forced vibrations in a deep-well pump rod are worked out on the basis of a force diagram measured at the upper end of the pump rod. Friction is included, the viscous-damping coefficient being evaluated from the average input-work rate at the top of the rod, and the average output-work rate in lifting a measured quantity of oil from the well bottom. The theory of longitudinal vibrations is worked out to give the loading on the plunger and the motion of the plunger. In applying this theory to an actual oil-well installation, excellent agreement was obtained between the predicted motion of the plunger and the measured output of the well.

Walter W. Soroka, USA

Moscow Petroleum Acad. im. Gubkin

1950

FREYDENZON, A.I.

Activity of the department of measuring equipment in a plant. Izm.tekh. no.10:35-37 O '65.

(MIRA 18:12)

FREYDENZON, V. M.

7645. FREYDENZON, V. M. -- Vosstanovleniye rezhushchego I meritel'nogo instrumenta. (opyt khar'k. zavoda transp. mashinostroyeniya). M., 1954. 52 s. s ill. 20 sm. (M-vo transp. mashinostroyeniya SSSR. Vsesoyuz. proyektnotekhnol. in-t vpti. obmen tekhn. opytom. vyp. 2). 1.000 ekz. b. ts. -- avt. ukazan na 3-y s. -- (55-656zh)

621.91.02-77 & 621.803.3.77

SO: Knizhnaya Letopsis', Vol. 7, 1955

SOV/137-57-6-10548

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 163 (USSR)

AUTHORS: Gol'dshteyn, M.Ye., Freydenzon, V.M.

TITLE: Chrome Plating a Cutting Tool (Khromirovaniye rezhushchego instrumenta)

PERIODICAL: Tekhnol. transp. mashinostroyeniya, 1956, Nr 5, pp 27-31

ABSTRACT: Description of the technique of metered chrome plating of taps, cutting dies, gear-wheel cutters, and worm-gear milling cutters. For gear-wheel cutters and worm-gear milling cutters anode-cathode devices are used in which the anodes are of steel or of lead-coated steel. Brief notes on the use of a chrome-plated tool are given.

Ye.G.

Card 1/1

FREYDENZON, Ye. (Novosibirsk)

Cooperative societies of Novosibirsk. Prom. koop. 12 no.7:32 Jl '58. (MIRA 11:8)

(Novosibirsk--Manufactures)

FREYDENZON, Ye. (Novosibirsk)

Ingenious design for an evaporator. Prom. koop. 12 no.8:30 Ag '58. (MIRA 11:9)

(Evaporating appliances) (Glue)

FREYDENZON, Ye. (Novosibirsk)

Agreement is signed.... Prom.koop. 13 no.2:7 F '59. (MIRA 12:4)

(Novosibirsk--Clothing industry)

137-1958-3-4979

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 74 (USSR)

AUTHOR: Freydenzon, Ye. Z.

TITLE: Prevention of Spoilage in the Production of Heavy Sheet Metal (Bor'ba s brakom pri proizvodstve tolstykh listov)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1956, Vol 10, pp 534-540

ABSTRACT: Equipment and systems developed and employed by the sheet-rolling shop of the Novo-Tagil'skiy plant are described together with the improvements of various technological operations that are responsible for a significant reduction in the amount of spoilage and waste due to scaling and other reasons. The following methods were found effective in the prevention of spoilage of heavy sheet metal due to scaling: a) automatic switching of gas and air lines in the furnaces; b) employment of furnace gas with a $Q \leq 2200$ cal/m^3; c) installation of a chain-type scale remover and modification of the duct system design. Recommendations for the prevention of spoilage due to low quality of metal are also given. Ref. RzhMet, 1957, Nr 12, 23684.

V. D.

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FREYDENZON, Ye.Z.; RYABOKON', N.K.; SKAKUN, V.D.; RABINOVICH, D.M.; BAZILEVICH, T.N.

Improving the mechanical properties of lightweight rolled shapes made of carbon and low-alloy steels. Stal' 22 no.3:262-263 Mr '62. (MIRA 15:3)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Steel alloys--Heat treatment)

FREYDENZON, Ye.Z.

It is the task of metallurgists to lengthen the service life of rails. Put' i put.khoz. 6 no.11:9 '62. (MIRA 16:1)

1. Glavnyy inzh. Nizhnetagil'skogo metallurgicheskogo kombinata, Nizhniy Tagil.
(Railroads--Rails)

FREYDENZON, Ye.Z.; RYABOKON', N.K.; RABINOVICH, D.M.; SEREBRYAKOV, V.S.

Properties of welded heat-treated rails. Stal' 22 no.11:1040-1041 N '62. (MIRA 15:11)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Railroads--Rails)

FREYDENZON, Ye.Z.; KALININ, A.I.

Rebirth of a blooming mill. Metallurg 8 no.2:27-30 F '63.
(MIRA 16:2)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Rolling mills)

[illegible], Yu.A.; [illegible]; [illegible], V.A.; TRET'YAKOV, M.A.; BERMAN, V.S.; MARKOVICHIN, D.F.; [illegible], S.A.; PASTUKHOV, A.I.

Mastering the operation of the oxygen blown converter plant of the Nizhniy Tagil metallurgical combine. Stal' 25 no.6: 533-537 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Nizhniy-Tagil'skiy nauchno-issledovatel'skiy institut chernykh metallov.

L 53978-65 EWI(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) JD
ACCESSION NR: AP5014866 UR/0133/65/000/006/0553/0557 21
621.43.669.15.194 21 B

AUTHOR: Freydenzon, Ye. Z.; Rabinovich, D. M.; Vlasokurov, I. Ya.; Loshkina, N.A.; Naymushina, L. F.; Freydenzon, Yu. Ye.

TITLE: Ways of improving the mechanical properties of low-carbon and low alloy steel sheets and sections

SOURCE: Stal', no. 6, 1965, 553-557

TOPIC TAGS: toughening, low carbon steel, low alloy steel, sheet steel, steel section, steel beam, quenched steel, toughened steel, spray quenching, quenching tank, impact toughness

ABSTRACT: Since the toughening of low-carbon and low-alloy metal by means of heat treatment requires substantial capital investments, it is of interest to consider other techniques. The authors describe the work being done in this field at the Nizhniy Tagil Metallurgical Combine with respect to the toughening of metal while it still is in heated state immediately after its rolling or forging. Beams, sheets, and strips were either immersed in a quenching water tank installed at the end of the roller table or passed through an experimental

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spray installation. For stabilization of the properties at the required level and enhancement of plasticity after the toughening by quenching in the tank, it is expedient to perform additional tempering by means of the available heat-treatment equipment. In the spray installation the required level of properties can be attained by adjusting the pressure and delivery rate of the cooling water. The effect of temperature was more precisely determined in laboratory experiments with 3sp steel: cooling in water from temperatures corresponding to the monophase (γ) and two-phase ($\gamma + \alpha$) regions exerts a marked and nearly identical toughening effect and produces an impact toughness (at +20°C) at the level of 8-10 kg-m/cm^2. In this way, the strength qualities of low-carbon metal could be increased 15-25%, and those of low-alloy metal, 30-50%, without detriment to plastic properties and impact toughness in the presence of negative temperatures and after mechanical aging. Toughening beyond these limits usually deteriorates the plastic properties of the metal. The uniformity of cooling over the area of the metal is of special importance. Orig. art. has: 4 figures, 5 tables.

ASSOCIATION: Nizhne-Tagil'skiy metallurgicheskiy kombinat (Nizhniy Tagil Metallurgical Combine)

Card 2/3

L 53978-65
ACCESSION NR: AP5014866

SUBMITTED: 000 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 001

Card 3/3

BARANOV, V.M.; DONSKOY, S.A.; TORSHILOV, Yu.V.; TRET'YAKOV, M.A.; UDOVENKO, V.G.; FREYDENZON, Ye.Z.

Blowing of cast iron in high-capacity converters. Metallurg 10 no.9: 15-18 S '65. (MIRA 18:9)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

FREYDENZON, Ye.Z.; PUSHKASH, I.I.; LAZAREV, B.L.; GLADYSHEV, V.I.

Characteristics of making vanadium cast iron from titano-magnetite ores from the Kachkanar deposit. Stal' 25 no.6: 492-497 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

ARNAUTOV, V.T.; BARANOV, V.M.; DONSKOY, S.A.; PASTUKHOV, A.I.; SMIRNOV, L.A.; TORSHILOV, Yu.V.; TRET'YAKOV, M.A.; UDOVENKO, V.G.; FREYDENZON, Ye.Z.; SHCHEKALEV, Yu.S.; Prinimali uchastiye: MAKAYEV, S.V.; KOMPANIYETS, G.M.; NAGOVITSYN, D.F.; NOVOLODSKIY, P.I.; VARSHAVSKIY, V.L.; KOROGODSKIY, V.G.; KLIBANOV, Ye.L.: MEDVEDEVSKIKH, Yu.; TALANTSEVA, T.I.; DUBROV, N.F.; DZEMYAN, S.K.; TOPYCHKANOV, B.I.; CHARUSHNIKOV, O.A.; KHARITONOV, Yu.A.

Developing and mastering the technology of converting vanadium cast iron in oxygen-blown converters with a 100 ton (Mg) capacity. Stal' 25 no.6:504-508 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Makayev, Kompaniyets, Nagovitsyn, Novolodskiy, Varshavskiy, Korogodskiy, Klibanov, Medvedevskikh, Talantseva). 2. Ural'skiy nauchno-issledovatel'skiy institut chenykh metallov (for Dubrov, Dzemyan, Topychkanov, Charushnikov, Kharitonov).

KOKUSHKIN, D.P.; FREYDENZON, Ye.Z.; KOMPANIYETS, I.A.; SHMONIN, G.M.; LEBEDEV, A.A.; ZATULOVSKAYA, Ye.Z.; Prinimali uchastiye: DUBROV, N.F.; PASTUKHOV, A.I.; ISAYEV, N.I.; STAROSELETSKIY, M.I.; AKSEL'ROD, L.M.

Improving the quality of a faceted ingot by changing the shape of its side surfaces. Stal' 25 no.7:610-612 Jl '65. (MIRA 18:7)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov i Nizhne-Tagil'skiy metallurgicheskiy kombinat.

FREYDENZON, Ye.Z., inzh.; KOMPANIYETS, G.M., inzh.; RABINOVICH, D.M., inzh.; ZATULOVSKAYA, Yo.Z., inzh.; SHCHETKINA, N.A., inzh.

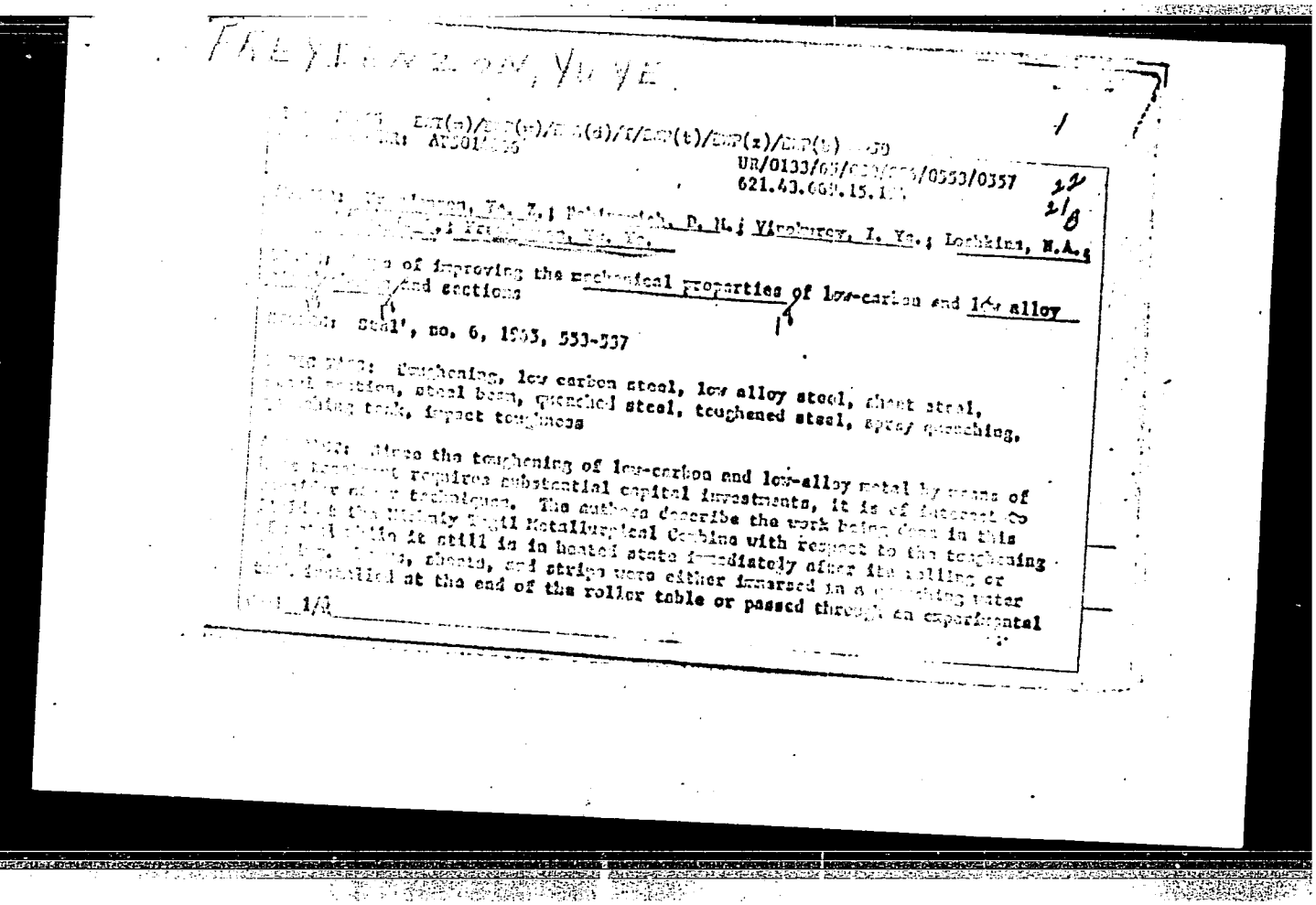
Effect of the composition of the heat insulating material on the macrostructure of rails. Stal' 25 no.8:803-805 S '65. (MIRA 18:9)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

FREYDENZON, Ye.Z.; FREYDENZON, Yu.Ye.; KOTSAR', S.L.; ZATULOVSKAYA, Ye.Z.; Prinimali uchastiye: KAS'YANOVA, K.S.; MIDRIK, L.Ya.; TIMOFEYEVA, T.D.; KOTEL'NIKOVA, Z.G.; VOYLOSHNIKOVA, A.I.; VASEVA, R.S.; GNATYUK, P.I.; MYKOL'NIKOV, A.A.; BURKSER, A.Ye.; PONER, D.M.; OGORODNIKOV, G.K.

Developing an efficient shape for slab ingots. Stal' 25 no.6: 539-543 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Ye. Freydenzon, Yu. Freydenzon, Kotsar', Zatulovskaya).



FREE ACCESS, YES

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[illegible]; Yu. Z.; Pokhmurskiy, D. M.; Vinokurov, I. Ya.; Lozhkina, M.A.; [illegible]; Yu. Ye.

[illegible] of improving the mechanical properties of low-carbon and low alloy [illegible] and sections

Stal', no. 6, 1965, 553-557

Topic tags: toughening, low carbon steel, low alloy steel, sheet steel, [illegible] section, steel beam, quenched steel, toughened steel, spray quenching, [illegible] tank, impact toughness

Abstract: Since the toughening of low-carbon and low-alloy metal by means of [illegible] requires substantial capital investments, it is of interest to [illegible] technologies. The authors describe the work being done in this [illegible] Metallurgical Combine with respect to the toughening [illegible] it still in heated state immediately after its rolling or [illegible], sheets, and strips were either immersed in a quenching water [illegible] installed at the end of the roller table or passed through an experimental

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spray installation. For stabilization of the properties at the required level and enhancement of plasticity after the toughening by quenching in the tank, it is expedient to perform additional tempering by means of the available heat-treatment equipment. In the spray installation the required level of properties can be attained by adjusting the pressure and delivery rate of the cooling water. The effect of temperature was more precisely determined in laboratory experiments with 3sp steel: cooling in water from temperatures corresponding to the monophase (γ) and two-phase ($\gamma + \alpha$) regions exerts a marked and nearly identical toughening effect and produces an impact toughness (at +20°C) at the level of 8-10 kg-m/cm^2. In this way, the strength qualities of low-carbon metal could be increased 15-25%, and those of low-alloy metal, 30-50%, without detriment to plastic properties and impact toughness in the presence of negative temperatures and after mechanical aging. Toughening beyond these limits usually deteriorates the plastic properties of the metal. The uniformity of cooling over the area of the metal is of special importance. Orig. art. has: 4 figures, 5 tables.

ASSOCIATION: Nizhne-Tagil'skiy metallurgicheskiy kombinat (Nizhniy Tagil Metallurgical Combine)

Card 2/3

BURKSER, V.Ye.; IOFFE, Ya.Ye.; IVANITSKIY, A.V.; FREYDENZON, Yu.Ye.; SEROVA, A.M.

Investigating the irregularities of the heating of sheet ingots in compartment-type, heating furnaces with a sliding bottom. (MIRA 18:6)
Stal' 25 no.6:569 Je '65.

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

FREYDENZON, Ye.Z.; FREYDENZON, Yu.Ye.; KOTSAR', S.L.; ZATULOVSKAYA, Ye.Z.;
Prinimali uchastiye: KAS'YANOVA, K.S.; MEDRIK, L.Ya.; TIMOFEYEVA,
T.D.; KOTEL'NIKOVA, Z.G.; VOYLOSHNIKOVA, A.I.; VASEVA, R.S.;
GNATYUK, P.I.; MYKOL'NIKOV, A.A.; BURKSER, A.Ye.; PONER, D.M.;
OGORODNIKOV, G.K.

Developing an efficient shape for slab ingots. Stal' 25 no.6:
539-543 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Ye. Freydenzon,
Yu. Freydenzon, Kotsar', Zatulovskaya).

ZAYONCHKOVSKIY, A.D., doktor tekhn.nauk; YABKO, Ya.M., kand.tekhn.nauk; FREYDGEYM, K.I., nauchnyy sotrudnik; BERNSHTEYN, M.Kh.kand.tekh.nauk

Development of the method of obtaining foams from a polyvinyl chloride paste for the manufacture of artificial leather. Nauch.-issl.trudy VNIIPIK no.12:11-18 '60. (MIRA 16:2)
(Leather, Artificial) (Vinyl polymers)

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)

KHOROSHAYA, Ye.S., kand. khim. nauk; KOROL'KOVA, K.D., mladshiy nauchnyy sotrudnik; ABRAMOVA, V.V., starshiy nauchnyy sotrudnik; FREYDGEMY, K.I., mladshiy nauchnyy sotrudnik

Rapid titration and refractometric method for determining moisture content of NH_4HCO_3. Nauch.-issl. trudy VNIIPIK no.14:167-170 '63. (MIRA 18:12)

KLEYMENOV, Yu.V.; FREYDGEYM, N.I.

Examiner graduated to 1 second. Stan.i instr. 31 no.10:39-40 O '60.
(MIRA 13:10)

(Level (Tools)--Testing)

Freydgeymas, Feysakhas Aynikovich

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66 p.
At head of title: Moscow. Publichnaya Biblioteka /and/ Vilna. Publichnaya Biblioteka.

FREYDIN, A.; SEMENOV, A.; SHVEDCHIKOV, A.

Plastics abroad. Plast.massy no.6:65-71 '62. (MIRA 15:6)
(Plastics)

MOSKALENKO, Z.D.; FREYDIN, A.I.

Stratigraphy of Jurassic and Cretaceous sediments in the upper Amur Valley (Urka, Ol'doy, B.Never, and Burinda basins). Zap. LGI 47 no.2:3-13 '64. (MIRA 18:3)