

GLIKMAN, S.A.; AVER'YANOVA, V.M.; KHOMUTOV, L.I.

Structure of acetylcellulose solutions. Vysokom. soed. 5 no.4:
598-604 Ap '63. (MIRA 16:5)

1. Saratovskiy gosudarstvennyy universitet imeni N.G.Chernyshevskogo.
(Cellulose acetates)

S/049/61/030/005/001/013
D216/D306

AUTHORS: Fedotov, S.A., Aver'yanova, V.N., Bagdasarova, A.M.,
Kuzin, I.P., and Tarakanov, R.Z.

TITLE: Some results of a detailed study of the seismicity
of the South Kurile islands

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofiziches-
kaya, no. 5, 1961, 633-642

TEXT: This paper reports the results of observations carried out
by the Institut fiziki zemli, AN SSSR (Institute of Physics of the
Earth, AS USSR) and the Sakhalinskiy kompleksnyy nauchno-issle-
dovalel'skiy institut AN SSSR (Sakhalin Scientific Research In-
stitute for Comprehensive Studies, AS USSR) between 1957 and 1960
at high sensitivity seismic stations, concentrated on determining
the energies and the coordinates of the foci of earth tremors in
the region studied. The method of Yu. V. Riznichenko (Ref. 5: Me-
tody massovogo opredeleniya koordinat ochagov blizkikh zemletry-
aseniy i skorostey seysmicheskikh voln v oblasti raspolozheniya

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Some results of a ...

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ochagov (Methods of Mass Determination of Coordinates of the Foci of Nearby Tremors and the Velocities of Seismic Waves in the Regions of Location of the Foci), Izv. AN SSSR, ser. geofiz., no.4, 1958) was used to determine the coordinates of the foci, since it enabled fast and accurate assessment of the epicenter and depth of the focus for any law of change of wave velocity with depth.

Hodographs of small tremors gave \bar{v}_{s-p} in the crust = 8.4, $\bar{v}_p = 6.1$, and $\bar{v}_s = 3.5$ km/sec, with the thickness of the crust 20 -

30 km. The velocity of seismic waves in the upper shell of the earth was found from close tremors with depths of foci from 30 - 120 km, refraction at the bottom of the crust being allowed for. The time t_{s-p} recorded at a station was converted into a time for a point 30 km under the station using a nomogram, and this was used to fix a more accurate position of the epicenter. Riznichenko's method (Ref. 5: Op. cit.) then gave the depth of the focus in relation to the 30 km level, the time at a depth of 30 km under

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the epicenter, and the mean velocity of the seismic waves in the shell. From the results, at depths of 30 - 100 km, $\bar{v}_{s-p} = 10.6$ km/sec and the mean value of $v_p/v_s = 1.74$, giving mean P- and S-wave velocities of 7.8 and 4.5 km/sec respectively. At 50 - 80 km depth, $v_p/v_s = 1.71 - 1.72$, implying some decrease of v_p and v_s for constant \bar{v}_{s-p} . Due to the distribution of foci in this region both above and below the depth, at which strong absorption of seismic wave energy begins, energetic classification of tremors was made by estimating the energy of the volume wave. The absorption in the shell and crust of the earth were estimated from the variation of the energy current of seismic waves per unit area with epicentral distance for tremors with different focal depths. It was found that for epicentral distances from 35 - 150 km, and depths of focus from 0 - 10 km, the coefficient of energy absorption = $0.008 \pm 0.001 \text{ km}^{-1}$ for the predominating S-wave with a frequency of 3 - 5 c/s. The mean coefficient of energy absorp-

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tion in the shell was found to be 0.007 km^{-1} in the layer at 30 - 50 km depth, and 0.02 km^{-1} in the layer at 30 - 80 to 90 km depth, both at about 3 c/s frequency. The observations indicate that the earth's crust and upper shell layer in the Okhotsk Sea and under the S. Kurile Islands have a low seismicity, despite the recent volcanic activity there. Particular attention is paid to a catastrophic tremor on November 6, 1958, at 22.58 ($\varphi_N = 44.2^\circ$, $E = 148.5^\circ$, $h = 90 \text{ km}$, $M = 8.2$), for which the linear dimensions of the focus were up to 80 km. There are 12 figures and 11 references: 9 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: J. Lehmann, Velocities of longitudinal waves in the upper part of the earth's mantle. Ann. geophys., 15, no. 1, (1959); N. V. Shebalin, Correlation between magnitude and intensity of earthquakes: asthenosphere. Publ. BCSI, ser. A, Tr. Sci., Fasc. 20, Toulouse, (1959). ✓

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki zemli (Academy

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Some results of a ...

S/049/61/000/005/001/013
D216/D306

of Sciences, USSR, Institute of Physics of the Earth)

SUBMITTED: September 15, 1960

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Card 5/5

AVER'YANOVA, V.N.

Mechanism of the focuses of five earthquakes in the Far East.
Trudy Inst. zem. kory SO AN SSSR no.18:70-105 '64.
(MIRA 18:11)

AVER'YANOVA, V.M.; GLIKMAN, S.A.

Effect of ultrasonic vibrations on the properties of concentrated acetone solutions of acetycellulose. Khim. volok. no.5:52-55 '63.
(MIRA 16:10)

1. Saratovskiy gosudarstvennyy universitet.

AVER'YANOVA, V.N.

General characteristics in strain directions operating in the
focuss of earthquakes in the Kurile-Famchatka seismic region.
Geotektonika no.3:85-98 My-Je '65. (MIRA 18:6)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut
Sibirskogo otdeleniya AN SSSR.

S/169/61/000/008/006/053
A006/A101

AUTHORS: Aver'yanova, V. N., Fedotov, S. A., Ferahev, M. D.

TITLE: Preliminary data on earthquakes and tsunami of November 6th, 1958

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 8, 1961, 9, abstract 8A92
("Byul. Soveta po seysmoi. AN SSSR", 1961, no. 9, 89-99)

TEXT: On November 6th, 1958, at 22h 58m 14s, Greenwich time, a catastrophic earthquake occurred on the western slope of the Kuril depression near the Iturup island (the epicenter coordinates were 44.5 northern latitude 148.9 eastern longitude, magnitude $M = 8.2$, the depth of seat was 80 km). The earthquake caused a tsunami. A considerable decrease of seismic activity was observed prior to the earthquake in the South Kuril zone. The considerable number of after-shocks immediately after the earthquake, decreased 3 - 4 days later to 150 - 160 per day. The earthquake was accompanied by a tsunami, in the form of a series of rapid 2 - 3 m high tides and ebbs. Information is given on tsunami over 70 km of the coastal regions. An analysis of preliminary data on the earthquake leads to the following conclusions. The earthquake has approximately the same intensity, about 8, on all the South-Kuril islands, spreading over 500 km. The zone of the

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AVER'YANOVA, V.N.; FEDOTOV, S.A.; FERCHEV, M.D.

Preliminary data on the earthquake and tsunamis of November 6, 1958.
Bul. Sov. po seism. no.9:89-99 '61. (MIRA 14:4)

(Kurile Islands—Earthquake, 1958)

(Kurile Islands—Tidal wave, 1958)

AVER'YANOVA, V.N.

Comparison of experimental data obtained during three Kamchatka earthquakes with the existing intensity models of the focuses.
Izav. AN SSSR. Ser.geofiz. no.10:1340-1356 0 '62. (MIRA 16:2)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut
Sibirskogo otdeleniya AN SSSR.
(Kamchatka—Earthquakes)

AYER'YANOVA, V. N.; SOLOV'YEH, S. L.; VARCHENKO, A. I.;

SOME INVESTIGATIONS OF SEISMIC CONDITIONS OF TSUNAMI GENERATION AND IMPROVEMENT
OF EQUIPMENT OF TSUNAMI WARNING SYSTEM.

REPORT SUBMITTED FOR THE 13th GENERAL ASSEMBLY, IUGG (OCEANOGRAPHY) BERKELEY,
CALIFORNIA, 19-31 Aug 63.

AVER'YANOVA, V.N.

Some characteristics of seismodislocations in the Far East.
Izv. AN SSSR. Ser. geol. 30 no.5:93-114 My '65.

(MIRA 18:6)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut
Sibirskogo otdeleniya AN SSSR.

ACC NR:

AT6036918

SOURCE CODE: UR/3235/64/000/018/0070/0105

AUTHOR: Aver'yanova, V. N.

TITLE: The focal mechanism of five Far Eastern earthquakes

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut zemnoy kory. Trudy, no. 18, 1964. Voprosy seysmichnosti Sibiri (Problems in the seismicity of Siberia), 70-105

TOPIC TAGS: seismicity, seismology, seismic wave, earthquake, focal depth, tsunami

ABSTRACT: The focal mechanism of 5 strong earthquakes (6 November 1958, 4 March 1952, 4 November 1952, 4 May 1959, 18 March 1952) originating in the Kuril Island-Kamchatka epicentral zone were investigated. Vvedenskaya's model of the focal mechanism as a strike-slip fault occurring in an elastic medium under the influence of mutually perpendicular compressive and tensile forces was used in the analysis. The focal mechanism was determined from the amplitude and the direction of the first motion of longitudinal waves and the direction of motion of SH, SV, and converted waves. The axis of principal stresses at foci, the possible

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UDC: 550.341.4

ACC NR:AT6036918

orientation of fault planes and the direction of motion were determined for each shock. An attempt was made to determine a unique fault plane for each focus. The results obtained for the five shocks were plotted on a map showing the distribution of the horizontal components of principal stresses and a map showing the dislocation at foci. It was established that except for the 6 November 1958 earthquake the axis of maximum and minimum stresses form an approximately 45° angle with the trend of the arc structures. In the case of the 6 November 1958 earthquake, the axis of pressure was horizontal and almost normal to the strike of the structures. For all earthquakes except for 18 March 1955 shock, the fault planes coincide with the focal surfaces. The fault plane of the 18 March 1955 earthquake was perpendicular to the trend of the arc structures. The strike-slip and dip-slip motions were about equally important and, except for the 18 March 1955 shock, the strike-slip motion was toward the southwest. The lengths of the fault planes were 85--350 km and the widths, 30--100 km. The vertical components of the displacements were 0.2--3 m. Orig. art. has: 29 tables, 19 figures, and 4 formulas. [CS]
[WA 79-67-4]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 013/ OTH REF: 006

Card 2/2

Ammonia reaction of halo ketones
with ammonia

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"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610011-9

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APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610011-9"

AYER, YAN, OVA, V. P.

Anomalous reaction of β -naphthylamine with esters of phos-
phoric acid. Reaction at 150°C.

RM

RAZUMOVSKAYA, Z.G.; AVER'YANOVA, V.V.

Significance of mineral nitrogen in the oxidation of sorbitol to
sorbose. Uch.zap.Len.un. no.216:31-37 '56. (MIRA 10:3)
(AMMONIUM SALTS) (SORBITOL)(SORBOSE) ACETOBACTER)

S/153/62/005/006/011/015
E075/E336

AUTHORS: Klimenko, I.B. and Aver'yanova, V.V.

TITLE: Some problems of the spectroscopic investigation of acrylonitrile-vinyl alcohol copolymer in the infrared region

PERIODICAL: Izvestiya vysshikh uchobnykh zavedeniy, Khimiya i khimicheskaya tekhnologiya, v. 5, no. 6, 1962, 975 - 978

TEXT: The authors investigated infrared spectra of bloc copolymers obtained by ball-milling polyacrylonitrile (PAN) (mol.weight 105 000) and polyvinyl alcohol (mol.weight 66 000). Examination of the films of the polymers deposited from dimethyl-formamide (DMF) showed that the absorption bands due to OH groups in the copolymer were superimposed initially on the OH groups of water present originally in DMF. The intensity of the OH absorption band decreased after extensive drying of the films but still remained considerable. A measure of the concentration of OH groups in the copolymer was obtained by comparing the optical density of the bands at $3200 - 3500 \text{ cm}^{-1}$ (OH) with that of Card 1/2

Some problems of

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E075/E336

the band for CH_2 for the same sample of PAN and the copolymer after drying. The ratio for the copolymer was found to be 0.37 - 0.44 and that for PAN 0.23 - 0.26. The ratio of optical densities of the CN and CH_2 band was also used to characterize the copolymer. The values obtained (the content of groups with CN substituents - 92%) agreed well with the values determined by microanalysis. There are 1 figure and 3 tables.

ASSOCIATION: Kafedry fiziki i khimicheskikh volokon,
Leningradskiy tekstil'nyy institut im.
S.M. Kirova (Departments of Physics and of
Chemical Fibres, Leningrad Textile Institute
im. S.M. Kirov)

SUBMITTED: October 17, 1961

Card 2/2

AUTHOR:

V.V. V.V.
Aver'yev, V.V.

5-3-9/37

TITLE:

Carbon Dioxide Arsenic Waters of the Sinegorsk Deposit in South Sakhalin (Ugledkislyye mysh'yakovistyye Sinegorskiye vody na Yuzhnom Sakhaline)

PERIODICAL:

Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskii, 1957, No 3, pp 143-149 (USSR)

ABSTRACT:

Sinegorsk mineral waters were discovered comparatively recently. The concentration of arsenic in the form of arsenous acid amounts to 102 mg per liter. The water is saturated with free carbon dioxide, up to 7.5 g/liter. In comparison with some famous foreign mineralized springs the Sinegorsk waters are characterized by the highest arsenic concentration and higher general mineralization. The Sinegorsk deposit is located 21.5 km NNW of Yuzhno-Sakhalinsk in the eastern side of the West-Sakhalin anticlinorium. The core of the anticlinorium is built up mainly of argillites and sandstones of the Upper Cretaceous system. Among the rocks of the eastern part there are Tertiary sediments, from the Oligocene to Pliocene, represented by sandstone and siltstone layers of a total thickness of more than 1,000 m. In the southern part of the Sinegorsk deposit a zone of intensive arsenic

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5-3-9/37

Carbon Dioxide Arsenic Waters of the Sinegorsk Deposit in South Sakhalin

realgar-orpiment mineralization was discovered. The author draws the conclusion that the origin of arsenic water in Sinegorsk was due to a recent thermometamorphism of the rocks at great depths. The realgar-orpiment mineralization was caused as a result of mixture of arsenic carbon dioxide waters with solutions containing hydrogen sulfide. This reaction proceeds at a wide range of temperatures and is due to the presence of dissolved carbonic acid which is a factor furthering mineralization. The article contains 1 map, 1 graph, 2 tables and 8 Russian references.

AVAILABLE: Library of Congress

Card 2/2

AVER'YEV, V.V.

Dynamic characteristics of steam-water wells. Trudy Lab. vulk no.18:113-
122 '60. (MIRA 14:3)

(Water, Underground) (Power resources)

AVER'YEV, V.V.

Conditions for discharging of Pauzhetsk thermal springs in
southern Kamchatka. Trudy Lab.vulk. no.19:80-98 '61.

(MIRA 14:9)

(Kamchatka—Geysers)

AVER'YEV, V.V.; SVYATLOVSKIY, A.Ye.

Volcano-tectonic structures of southern Kamchatka. Izv. AN SSSR.
Ser.geol. 26 no.6:98-100 Je '61. (MIRA 14:6)

1. Laboratoriya vulkanologii AN SSSR, Moskva.
(Kamchatka—Geology, Structural)

AVEN'YEV, V.V.; KABOKO, S.I.; PIYP, B.I.

Recent hydrothermal metamorphism in areas of active volcanism. Dokl.
AN SSSR 137 no.2:407-410 Kr '61. (MIRA 14:2)

1. Laboratoriya vulkanologii AN SSSR. 2. Chlen-korrespondent AN
SSSR (for Piyp).
(Kamchatka--Geysers) (New Zealand--Geysers)
(Metamorphism--Geology)

AVER'YEV, V. V.,

"Some quantitative facts of recent hydrothermal process "

Report to be submitted for the 13th General Assembly, Intl. Union of Geodesy
and Geophysicâ (IUGG), Berkeley Calif., 19-31 Aug 63

FOLYAK, Boris Grigor'yevich; VAKIK, Yevgeniy Aleksandrovich;
OVCHINNIKOVA, Yekaterina Nikolayevna; AVER'YEV, V.V.,
kand. geol.-miner. nauk, otv. red.

[Hydrogeothermal conditions in the volcanic area of Kamchatka
(the city of Petropavlovsk)] Gidrogeotermicheskie usloviia
vulkanicheskogo raiona Kamchatki (g. Petropavlovsk). Moskva,
Nauka, 1965. 93 p. (MIRA 18:9)

FROLOV, N.M.; AVER'YEV, V.V.; DUKHIN, I.Ye.; LYUBIMOVA, Ye.A.; Prinsipali uchastiye: GOL'DBERG, V.M.; MAVRITSKIY, B.F.; SEDOV, N.V.; YAZVIN, L.S.; KUTASOV, I.M.; STARIKOVA, G.N.; KORTSENSHTEYN, V.N., red.

[Methodological instructions for studying thermal waters in boreholes.] Metodicheskie ukazaniia po izucheniiu termal'nykh vod v skvashinakh. Moskva, Nedra, 1964. 139 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut gidrogeologii i inzhenernoi geologii. Trudy, no.17). (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii, Moskva (for Frolov, Gol'dberg, Mavritskiy, Sedov, Yazvin). 2. Institut vulkanologii Sibirskogo otdeleniya AN SSSR (for Aver'yev). 3. Institut merzlotovedeniya AN SSSR (for Dukhin). 4. Institut fiziki Zemli AN SSSR (for Lyubimova, Kutasov, Starikova).

BELOUS, A.T.; SEYL', F.R.; MIY, Ye.M.; AVEROV, V.L.

Electronic dynamoscope with a zero reading line and load
scale. Neft. khoz. 42 no.6:43-46 Je '64. (MIRA 17:8)

USSR/Medicine - Serum
Medicine - Veterinary Medicine

Jul 1947

"Dry Positive Trypanozomatic Serum." I. S.
Avesalov, P.

"Veterinariya" No 7

This dry positive trypanozomatic serum is prepared by freezing and drying in a vacuum apparatus. It still retains its effectiveness after 3 to 6 months. Further research will make it available for wide use in treatment of RSK. Work on this problem was conducted at Omsk, Scientific and Research Veterinary Institute and the GNKI of the Ministry of Animal Husbandry.

17T22

USSR / Diseases of Farm Animals. Diseases Caused by Protozoa. R

Abstr Jour : Ref Zhur - Biol., No 22, 1958, No 101348

Author : Ayessalomonov, I. S.

Inst : Kirgiz Scientific Research Veterinary Experiment

Title : Pathologo-Anatomical Changes in Mating Diseases.

Orig Pub : Tr. Kirgizsk. n.-i. vet. opyt. st., 1955, sb. 5. 165-171.

Abstract : No abstract.

Card 1/1

AVESSALOMOV, I. S. and SVIRSKAYA, S. A.

"The Campaign Against Ixodes Ricinus Ticks in Leningrad Oblast'
(1956-1959)."

Tenth Conference on Parasitological Problems and Diseases with Natural
Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of
Sciences, USSR, Moscow-Leningrad, 1959.

Leningrad Scientific-Research Veterinary Institute

COUNTRY : USSR
CATEGORY : Diseases of Farm Animals. R
Diseases Caused by Helminths.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 12160
AUTHOR : Avessalomev, I. S.; Svirskaya, S. A.*
INST. : Leningrad Scientific Research Institute of**
TITLE : An Experiment on Iodine Therapy for Dictyocaulosis of the Calf.
ORIG. PUB. : Byul. nauchno-tekhn. inform. Leningr. n.-i. vet. in-ta, 1957, vyp. 4, 27-28
ABSTRACT : A subcutaneous method of applying a water solution of iodine was tested on 110 sick calves. The method was proven ineffective.

CARD: 1/1

*Shepelev, L. A.
**Veterinary Science.

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AVESSALOMOV, I.S., prof.

Cultivation of pastures as a means for increasing productivity
in stockbreeding. Vest. AN SSSR 31 no.4:91-93 Apr '61.
(MIRA 14:4)
(Leningrad Province--Pastures and meadows)

AVESSALOMOV, I.S., prof.

Improve the veterinary hygiene conditions of pastures and
hay fields. Veterinariia 42 no.9:94-95 S '65.

(MIRA 18:11)

1. Tadzhikskiy sel'skokhozyaystvennyy institut.

AUTHORS: Avetesyan, A., Engineer, and Zeger, K.

SOV/4-58-11-28/31

TITLE: The Bubbling Layer (Kipyashchiy sloy)

PERIODICAL: Znaniye - sila, Nr 11, 1958, p 36 (USSR)

ABSTRACT: By several examples the authors explain the nature of the "bubbling layer" and the advantages it affords. The bubbling layer gives the possibility to utilize the "unyielding" solid material in the form of powder possessing many of the properties of liquid which makes it much easier to conduct large industrial processes. The transportation of liquid is easier, a flow of liquid can be better controlled and it is simpler to warm and to cool liquid. The authors explain the role which the bubbling layer plays in industry: in gas production, cracking of petroleum, catalytical cracking, calcination of sulfur pyrite in a bubbling layer, production of dyes, etc. The bubbling layer is only beginning to be brought into use in the chemical industry forcing out old labor-consuming processes and increasing manifold the productivity of labor. There are 3 drawings.

Card 1/1

1. AVETIKOV, A. L.
2. USSR (600)
4. Wood Finishing
7. Finishing furniture by deep impregnation and spray-gun staining. Der. i lesokhin. prom. 2, No. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Unclassified.

AVETIKOV, A.L., inzhener.

Increase the production of wicker furniture. Der.prom,5 no.6:6-8 Jo '56.
(MIRA 9:9)

I.TSentrepremsvet.
(Furniture industry)

AVETIKOV, A.L.

Present-day manufacture of rubberized materials. Der.pron.
9 no.3:26-27 Mr '60. (MIRA 13:6)
(Austria--Rubberized fabrics)

AVETIKOV, Aram Leonovich; SHUTSKIY, S.B., nauchnyy red.; GURIN, A.V.,
red.; TOZER, A.M., tekhn.red.

[Filling materials and fabrics for upholstered furniture]
Mingkie elementy mebeli. Moskva, Vses.uchebno-pedagog.izd-vo
Proftekhizdat, 1960. 121 p. (MIRA 13:12)
(Upholstery)

AVETIKOV, A.L.

Use of sponge plastics (porous plastics) in industry. Plast.massy
no.6:41-43 '61. (MIRA 14:5)

(Foam rubber)

AVETIKOV, A. L.

Molded parts from polymeric synthetic materials for
upholstered furniture. Plast. massy no.11:71-73 '62.
(MIRA 16:1)

(Plastics—Molding)

AVETIKOV, A.L.

Foreign practices in the manufacture of upholstered furniture.

Der. prom. 13 no.2:30-31 F '64.

(MIRA 17:3)

AVETIKOV, Aram Leonovich; SHVEDOV, V.N., red.

[Technology of the manufacture of upholstered furniture]
Tekhnologiya proizvodstva miagkoi mebeli. Izd.2., perer.
i dop. Moskva, Izd-vo "Lesnaia promyshlennost'," 1964.
195 p. (MIRA 17:8)

... ..

Quality, reliability, and serviceability of upholstered furniture
Der. prom. 14 no.5:22-24 My '65. (MIRA 18:6)

AVETIKOV, A.I.

Two methods of testing the reliability of the upholstered
parts of furniture. Dar. prom. 15 no.1:7-8 Ja '66.

(MIRA 19:1)

AVETESYAN, M. S.

"The Action of Some Phenols on Protozoa," N. N. Mel'nikov, A. M. Avetesyap, M. S. Rokitskaya, Compt rend acad sci URSS, XXXI, pp 123-4 (1941) (in English) "Structure and Insectocidal Properties of Organic Compounds, Derivatives of 2 hydroxybiphenyl."
N. N. Mel'nikov, M. S. Rokitskaya, Z. E. Bekker, Compt rend acad sci URSS, XXXI, pp 125-7 (1941) in (English) (SEE: Inst. Insect/Fung. in Ya. V. Samoylov)

SO: U-237/49, 8 April 1949

AVETIKOV, G.

Calculating a spray disc. Mias.ind.27 no.6:45-47 '56. (MLRA 10:2)

1. Ministerstvo promyshlennosti myasnnykh i molochnykh produktov
Armysnskoj SSR.
(Meat industry--Equipment and supplies) (Drying apparatus)

AVETIKOV, G.

At the meat combines of Armenia. Mias.ind. SSSR 31 no.6:18-21 '60.
(MIRA 13:12)

1. Sovnarkhoz Armyanskoy SSR.
(Armenia--Meat industry)

AVETIKOV, G., kand.tekhn.nauk; BAKUNTS, G.

Spiral chute for carcass halves; design and construction. Mias.ind.
SSSR 33 [i.e.34] no.2:34-37 '63. (MIRA 16'4)

1. Sovet narodnogo khozyaystva Armyskoy SSR, Upravleniye myasnoy i
molochnoy promyshlennosti.
(Meat industry--Equipment and supplies)

FELEYEV, Aleksandr Ivanovich, prof.; LAPSHIN, A.A., kand. tekhn. nauk, dots., retsenzent; AVETIKOV, G.M., kand. tekhn. nauk, retsenzent; SOKOLOV, A.Ya., doktor tekhn. nauk, retsenzent; KUZ'MINA, V.S., red.; ZARSHCHIKOVA, L.N., tekhn. red.

[Technological equipment of the enterprises of the meat industry] Tekhnologicheskoe oborudovanie predpriyatii miasnoi promyshlennosti. Izd.2., perer. i dop. Moskva, Pishchepromizdat. 1963. 685 p. (MIRA 16:12)
(Meat industry--Equipment and supplies)

AVETIKOV, N.; DAVIDOV, I.

Specialization and co-operation of motortruck repair plants in
the Georgia Economic Region. Avt. transp. 36 no. 7:24-25 J1 '58.
(Georgia--Motortrucks--Maintenance and repair) (PLA 11:8)

1ST AND 2ND CHDRS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH CHDRS

CA 19

The treatment of spark initiators for spark plugs by
Larson, E. C. P. S. Sushchikov and G. D.
Larson. From: *Chem. Abstr.* 1941, No. 5, 23-3;
Chem. Abstr. 1941, No. 5, 23-3; papers of expts. on
polishing spark-plug initiators. E. C. Larson

ABSTRACT METALLURGICAL LITERATURE CLASSIFICATION

GROUP 1	GROUP 2	GROUP 3	GROUP 4
1	2	3	4
5	6	7	8
9	10	11	12
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73	74	75	76
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81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

AVETIKOV, V. G. Card. Tech. Sci.

Dissertation: "Heat-Resistant Cordierite Ceramic Products with Sintered Clinker."
Moscow Order of Lenin Chemicotechnological Inst imeni D. I. Mendeleev, 25 Apr 47.

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

Н/Е.Т.К.О.Б. 1. 7.
CA

The compound $\text{BeO} \cdot 3\text{Al}_2\text{O}_3$. P. P. Budnikov, V. G. Avelikoy, B. I. Dudavskii, and A. A. Zvyagin'skii. *Doklady Akad. Nauk S.S.S.R.* 66, 313-16 (1949).—X-ray data of Foster and Royal (C.A. 43, 2835d) are supplemented by accurate measurements. A 5th characteristic line, $d = 0.990 \text{ \AA}$, was found in addn. to the 4 lines of F. and R.. The relative intensities given by F. and R. are corrected. More interferences are listed for planes with $d < 1.37 \text{ \AA}$. faint interferences for planes with $d > 1.37 \text{ \AA}$. not noticed by F. and R.. are listed. The line $d = 2.81 \text{ \AA}$. was not observed; possibly, it belongs to corundum. No compts. stable at 1700° other than chrysoberyl and $\text{BeO} \cdot 3\text{Al}_2\text{O}_3$ exist in this system. N. Thon

AVETIKOV, V. G.

USSR/Electricity - Literature
Insulators

Oct 51

"Review of N. V. Nikulin's 'Production of Porcelain Insulators,'" V. G. Avetikov, Cand Tech Sci

"Elektrichestvo" No 10, pp 95, 96

Favorable review of subject book, which is divided into 10 chapters covering the entire technological process of producing high-voltage porcelain insulators, from the description of the raw materials required to the testing of the finished insulators. Published by Gosenergoizdat, 1951, 148 pp, R 5.90.

201753

CA
AVETIKOV

Mechanism of the formation of cordierite and its stability
P. P. Rudnikov, V. G. Avetikov, and A. A. Zvyagintsev
(U. S. S. R. Acad. Sci. Div. Chem. Technol. Inst., Moscow).
Doklady Akad. Nauk S.S.S.R. 81, 881 (1951). The
charge consisted of talc 3, fireclay 2, and alumina 1 moles.
It was wet ball milled to 60-100 μ , the slip was dehydrated,
dried, and fired at 1350°. The fired product showed no signs
of destruction after 25 heat shock cycles (800° - cold water).
Petrographic and x-ray analyses indicate that accompanying
mineral formations were clinenstatite, mullite, and spinel.
B. Z. Kamnev

Аветиков, В. Г.

109/14

The effect of the composition of the glass phase of steatite
on some of its properties. V. G. Avetikov, P. F. Budakov,
and B. I. Zhukov. *J. Appl. Polym. Sci.* 8, 641-7
(1965) (Engl. transl.).—See C.A. 50, 2040b.

H. M. R.

M-7
②
14/14

AVETIKOV, V G

100. The influence of the composition of the glassy phase in steatite on some of its properties.—V. G. AVETIKOV, V. P. BRONNIKOV, and E. I. ZIL'KO (Zh. prikl. khim., Leningr., 28, 675, 1955). In this article, the glassy phase is present as complex lumino-silicate glasses containing alkalis and alkaline earths. In view of the dual nature of Al and Fe ions, in calculating the coefficient of the molecular ratio (c.m.r.) of the glassy phase, one half of the Al and Fe cations was regarded as glass-forming and the other as non-glass-forming. The c.m.r. of the glassy phase was calculated as follows:

$$c.m.r. = \frac{R_2O + RO + 0.5(Al_2O_3 + Fe_2O_3)}{SiO_2 + 0.5(Al_2O_3 + Fe_2O_3)}$$

In the bodies studied, tan δ decreased with increasing ratio of RO to SiO₂ in the glassy phase, while tan δ of the steatite decreased. The dielectric properties of steatite is caused by a change in composition of the glassy phase as a result of an increase in SiO₂ content in the glassy phase and left SiO₂ resulted in an increase of dielectric properties of the steatite. Increasing the SiO₂ content within limits lengthens the vitrification range of steatite containing Ba has a wider vitrification range than one containing Ca.

of the glassy phase, if the glassy phase remained constant, accompanied by an increase in the composition of the glassy phase. The improvement of the dielectric properties of the glassy phase is caused by a change in composition of the glassy phase, and decrease by a lowering of the c.m.r. of the glassy phase. More CaO and BaO in the glassy phase and improved the content in the glassy phase. Steatite with a glassy phase containing Ca. (4 figs., 3 tables.)

3
Mats

MM nk

BELKOVICH, Viktor Lvovich, kandidat tekhnicheskikh nauk; AVETIKOV, V.G.,
kandidat tekhnicheskikh nauk, nauchnyy redaktor; CHERNYAK, Ya.M.,
redaktor; LYUDKOVSKAYA, N.I., tekhnicheskiiy redaktor

[Insulators for internal combustion engine spark plugs] Isoliatory
dlia zapal'nykh svechei dvigatelei vnutrennego sgoraniia. Moskva,
Gos. izd-vo lit-ry po stroit. materialam, 1956. 95 p. (MLRA 9;8)
(Spark plugs) (Electric insulators and insulation)

USSR /Chemical Technology. Chemical Products
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31581

Author : Zvyagil'skiy A.A., Avetikov V.G.

Title : Ways of Improving the Quality and Increasing
Reusability of Saggeres at Insulator-Porcelain
Plants

Orig Pub: Sb.: Kapseli i karkasnyye ognepurnyye detali,
primenyayemye v keram. prom-sti. M., Prom-
stroyizdat, 1956, 81-99

Abstract: Results are reported of studies of the effects,
on properties of saggeres, of the following factors: -
composition of the binder portion of the mix; grain-
size composition of chamotte; preliminary moistening

Card 1/3

USSR /Chemical Technology. Chemical Products
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31581

of chamotte; working the paste twice and aging it thereafter; addition of talc, alumina and carbundum, in amounts of 3-20%, to the chamotte paste. For the usual chamotte paste for saggars the following optimal composition is recommended (in % by weight): clayey portion (Latnenskaya + Chasov-Yarskaya Clay + kaolin) 45, chamotte 55, including 17-20 of 5-2.5 mm grain, 25-29 of 2.5-0.5 mm and 7-10 of less than 0.5 mm. Reusability of saggars containing 15-30% alumina, when articles are fired at 1400', is about 8 times, on addition of 8-10% Shabrovskiy talc, it is of about 10 times, but the temperature at which the articles are fired in the furnace must not exceed 1320°.

Card 2/3

USSR /Chemical Technology. Chemical Products
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31581

Most effective is incorporation into the paste of
20% SiC, having a grain size of less than 1 mm;
reusability of such saggars is of about 20 times.

Card 3/3

USSR / Electricity

G

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9601

Author : Avetikov, V.G., Belinskaya, G.V., Zinko, E.I.

Inst : Not given

Title : Investigation of the Properties of Plastic Steatite Mass for Production of Insulators.

Orig Pub : Tr. Gos. issled. elektrokeram. in-ta, 1956, vyp. 1, 92-108

Abstract : Investigation results are reported in the field of the study of various plastic steatite masses, and the role of the glass-like phase in the change of the property of such ceramic materials, in which the fundamental crystal phase is the clinenstatite ($MgO.FiO_2$), is explained. The initial materials used for the preparation of experimental steatite mass were onotsk talcum, Chasovyarsk clay, Oglanlinsk bentonite, "Us-ta" magnesia, chalk, barium carbonate, strontium carbonate, and Lyuberetsk quartz sand. The specimens for the tests were

Card : 1/2

USSR / Electricity

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9601

Abstract : fired in laboratory silite furnaces with a volume 0.3 cubic meters and in flame furnaces with a volume 0.2 -- 0.3 cubic meters for 7 -- 9 hours in an oxidizing gas atmosphere. The results of the investigations on the effect of the raw and calcined talcum and of clay components on the technological properties of the steatite plastics are discussed, as are the changes in the properties of the steatite with the contents of the clay and the bentonite, magnesium oxide, chalk, strontium carbonate, barium carbonate, and additives of quartz sand. Compositions of plastic steatites suitable for industry are developed.

Card : 2/2

AVETIKOV, V.G., kand.tekhn.nauk; BELINSKAYA, G.V., kand.tekhn.nauk;
ZIN'KO, E.I., kand.tekhn.nauk

Properties of talcs used in the ceramic industry of the U.S.S.R.
Trudy GIEKI no.2:71-82 '57. (MIRA 11:7)
(Talc) (Ceramic industries)

AVETIKOV, V. G.

AUTHOR. Avetikov, V. G. 72-12-4/11

TITLE. Application of Lithium Compounds in the Ceramic Industry (Primeneniye litiyevykh soyedineniy v keramicheskoy promyshlennosti).

PERIODICAL. Steklo i keramika, 1957, Nr 12, pp. 10-13 (USSR).

ABSTRACT. In the triple system $\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$ a series of lithium aluminum silicates is known: petalite, lithium-orthoclase, spodumene, and evcriptide of which some also in composition with clay and other additions form ceramic materials with a very low thermal coefficient of expansion in the temperature region of from 0 to 800° . Due to this property one succeeded to obtain highly heat-resisting ceramic materials which stand an often repeated abrupt cooling down in water after a heating up to $800 - 1100^\circ$. In the papers of M. A. Bezborodova, P. F. Mikhalevich, S. G. Tumanova and V. P. Shvayko (references 1 and 2) compositions were investigated with 0,07 up to 0,58% lithium-oxide. In present paper ceramics with a higher lithium oxide content is investigated. For these experiments a porcelain mass was used in which the entire pegmatite was substituted by spodumene. The content of Li_2O in china amounted to two percents. According to the mechanical properties and the electric resistance the experimental

Card 1/3

Application of Lithium Compounds in the Ceramic Industry. 72-12-4/11;

samples which were obtained in the laboratory were similar to the common high voltage porcelain. The thermal coefficient of expansion was lower in the region of temperatures of from 20 to 200° than that of the feldspar porcelain. Since the results of a sintering of products of spodumene ceramics in the laboratory and in the works were different, special works were carried out for the detection of the reason; N. I. Markova, G. N. Maslennikova and I. S. Rosenblyum took part in these works (reference 1). The mass investigated consisted of spodumene, quartz, and plastic refractory clay with 1,98 % lithium oxide. In figure 1 the regimes of the thermal treatment in the works and in the laboratory are given. Furthermore the influence of the cooling velocity on the body properties was investigated (figure 1). In table 1 the experimental results in various temperature intervals are shown. In figure 2 the differential curve of the cooling down of the spodumene mass is given. It was found that the process of formation of different structure is reversible. In figure 3 the linear thermal expansion of lithium ceramics is given. In order to detect the heat resistance experiments have been carried out which results are given in table 2. The value obtained of the expansion of lithium ceramics agree well with the values of A. I. Avgustinik and Ye. I. Vasil'yev (reference 1). On the strength of works carried out it was found among others that for the production of a consistent

Card 2/3

Application of Lithium Compounds in the Ceramic Industry.

72-12-14/14

ceramics structure the cooling down in the temperature region of from 1300 to 1100° with a velocity of at least 300° per hour has to take place. Below 1100° the cooling velocity has no influence. The crystallization velocity of the ceramics in the cooling down can be considered as proportional to the quantity of the lithium oxide content. Also the capability of resistance against abrupt thermal drop increases with the increasing content of Li₂O.

There are 3 figures, 2 tables, and 5 Slavic references.

ASSOCIATION: State Research Institute for Electro-Ceramics (Gosudarstvennyy issledovatel'skiy elektrokeramicheskiy institut).

AVAILABLE: Library of Congress.

Card 3/3

AVETIKOV, V. G.

"Role of Magnesium Oxide in Steatite Ceramics" p. 424

Transactions of the Fifth Conference on Experimental and Applied Mineralogy and Petrography, Trudy ... Moscow, Izd-vo AN SSSR, 1958, 51pp.

reprints of reports presented at conf. held in Leningrad, 26-31 Mar 1956. The purpose of the conf. was to exchange information and coordinate the activities in the fields of experimental and applied mineralogy and petrography, and to stress the increasing complexity of practical problems.

AVETIKOV V.G.

SOV/GR-59-15-53101

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 15, pp 309 - 310

AUTHOR: Avetikov, V.G.

TITLE: The Role of Magnesium Oxide in Steatite Ceramics

PERIODICAL: Tr. Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskoy tekhnologii i petrologii, 1959, Moscow, AN SSSR, 150, pp 27 - 30

ABSTRACT: Results are cited of an investigation of the effect of MgO on the phase-mineralogical composition and the properties of steatite. Magnesium oxide in the form of chemically pure basic magnesium carbonate was brought into a typical plastic burning steatite mass in the quantity from 0 to 10% at the expense of the corresponding change in the content of CaO. Steatite burned at 1,350°C. It has been established that at burning steatite masses a part of MgO passes into the melt and takes part in the formation of the glassy phase of steatite. In distinction from the oxides of other bivalent elements MgO does not lower the sintering temperature of the steatite masses, i.e., it is not a flux. An increase in the MgO concentration in the melt increases its viscosity and prolongs the interval of the sintered state of the steatite. The change in the ratio

The Role of Magnesia Oxide in Steatite Corrosion

06V/01-50-45-5'103

$CaO : SiO_2$ ratio very broad limits exerts no effect on the quantity of the clinocristallite phase in the steatite; at considerable saturation of the melt with magnesium oxide, the latter is formed as a by-product with clinocristallite. A decrease in the tangent of the angle of dislocation lines of steatite with an increase in the MgO addition is caused by the change in the composition of the glassy phase at the expense of an increase in the $CaO : SiO_2$ ratio in it. It is noted that in this case the role of magnesium oxide is analogous to the role of the oxides of other bivalent elements, such as ZnO , CoO , which condense the glass structure and which are usually present in considerable quantity in the glassy phase of steatite. Investigations have been carried out of steatite masses with an addition of MgO introduced in various mineralogical forms. It has been established that the rate of dissolution and the quantity of MgO passing into the melt depends on the activity of the magnesia addition which is determined by its mineralogical form.

G. Maslennikova ✓

C 10/0

AUTHORS:

Avetikov, V. G. Zin'ko, E. I.

SOV/72-55-7-9/19

TITLE:

Processes Taking Place During the Agglomeration of Plastic Steatite Masses (Protsessy, protekayushchiye pri spekanii plastichnykh steatitovykh mass)

PERIODICAL:

Steklo i keramika, 1959, Nr 7, pp. 29 - 33 (USSR)

ABSTRACT:

The plastic steatite mass TK-21 was investigated with the assistance of I.S.Rozenblum, Engineer. It is produced on the basis of the talc of the Onotsk deposit and contains the clay from the Chasov-Yar deposit as clay-containing components, as well as bentonite (bentonit) of the Ogleskly deposit. Chalk from the Belgorod deposit served as flux. Approximately 70% of the Onotskly talc which was added to the mass was previously burnt at a temperature of from 1300 to 1350°. The TK-21 mass was investigated by the authors by means of the method of thermographic analysis in which case shrinkage and loss in weight were noted at the same time. The authors stress that the exothermic effect of the formation of the magnesium-metasilicate on the differential curve of the mass-heating was not observed, which was meanwhile found out by the investigations carried out by D.S.Belyankin, V.V.Ivanov,

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Processes Taking Place During the Agglomeration of Plastic Steatite Masses SOV/72-56-7-9/19

V.V.Lapin, V.G.Avetikov, G.V.Belinakaya, E.I.Zin'ko, S.N.Grachev (Ref 1), as well as by the thermographical investigations of the talc and its mixture with magnesium carried out by A.I.Avgustinik, I.L.Sverchkova and V.V.Lapin (Ref 2). The lacking of the effect of magnesium-metasilicate formation on the thermograms of the Ozotkiy talc proves that the process in these cases takes a different course, as also results from the work carried out by A.I.Avgustinik and V.S.Vigdergauz (Ref 1). The processes of burning of the steatite mass TK-21 were investigated by the burning of samples of both this mass and of the analogous masses, but without chalk (mass n.1), without unburnt chalk (mass n.2), or without clayey materials (mass n.3). This made the determination of the rôle played by the mentioned materials in these processes possible. The soluble calcium and siliconoxides in the burnt samples were determined by the method developed by S.D.Notkina. The loss occurring during burning within the temperature interval of from 200 to 1100° was determined for the masses TK-21 and number 1 (Fig 1). The reactions of silicate formation in the solid phase were investigated in the TK-21-masses, in number 2 and number 3, by means of the chemical analysis of samples which were

Card 2/4

Processes Taking Place During the Agglomeration of
Plastic Steatite Masses

72-58-7-9/19

burnt at various temperatures (Fig 2). An investigation of the burning processes of the steatite masses TK-21, number 2 and number 3 showed that the calcium silicates in the TK-21 mass are formed chiefly due to the reactions taking place between the chalk and the clay containing components, and to a smaller extent due to reactions taking place between chalk and talc. The change of the water absorption and shrinkage of the samples in dependence on the burning temperatures is shown (Fig 3). The petrographical investigation of the samples of steatite TK-21 was carried out by the petrographer E.I. Medvedovskaya. The grindings of these samples at burning temperatures of 1100°, 1200°, 1250° and 1280° are shown (Figs 4, 5, 6 and 7). The quantity of glass in the case of the burning temperature of 1280° was determined by the method developed by G.N. Voronkov and E.I. Frid (Ref 1). Conclusions: 1) The first stage of the process of agglomeration of steatite TK-21 (up to 1000°) is characterized by reactions taking place in solid state. 2) The second stage is characterized by the presence of a melt and takes place within the temperature interval of from 1100° to 1280°. 3) The heterogeneity of the structure of

Card 3/4

Processes Taking Place During the Agglomeration of
Plastic Steatite Masses

72-98-7-9/19

the fragments and the content of vitreous phase increases during the approximation to the final temperature. This stage of sintering is accompanied by an intense solidification of steatite. There are 7 figures and 10 references, 8 of which are Soviet.

1. Talc--Processing 2. Bentonite--Applications 3. Talc--Test
methods 4. Talc--Temperature factors

Card 4/4

AVETIKOV, V. G.

AUTHORS:

- SOV/195-58-7-15/32
- 1) Bolgov, B. N., Doctor of Chemical Sciences
Kharitonov, N. P., Candidate of Chemical Sciences
 - 2) Belinskaya, G. V., Candidate of Technical Sciences
Avetikov, V. G., Candidate of Technical Sciences

TITLE:

Constant Wire-Wound Resistances PT for Operation in Tropical Climates (Provolochnyye postoyannyye soprotivleniya PT dlya raboty v usloviyakh tropicheskogo klimata)

PERIODICAL:

Elektrichestvo, 1958, Nr 7, pp. 64 - 65 (USSR)

ABSTRACT:

Wire-wound resistances of the type PT which are designed for the tropics, are described. Their dimensions are calculated in such a manner that, in the case of nominal electrical charges, the surface temperature exceeds that of the environment by more than 200°C . These resistances consist of a ceramic structure with rigid constructions and reeled up wire of highly effective resistance. From outside they are protected by a special coating against the actions produced by the external medium. The high quality of these coatings is due to the combination of silicon-organic polymeric compounds with specially treated mineral fillers. The resistances

and 1/3

Constant Wire-Wound Resistances **PT** for Operation in Tropical Climates SOV/105-58-7-15/32

are characterized by high moisture-resistance. They are resistant against the action of mould fungi. They were tested by the Geneva Method MEK (Ref 1). They have both high mechanical and electrical resistance and warrant safe operation for more than 5000 hours. The "Uralizolyator" Works at present produce these resistances in accordance with the technical regulations TU - IOII.528.061-57. Examination of the resistance against fungi was carried out in the Laboratory of Electrophysics at the VET (under the supervision of [Name]). There are 1 figure, 2 tables, and 1 Soviet reference.

ASSOCIATION: 1) Institut khimii silikatov AN SSSR, Leningrad (1) Leningrad, Institute of the Chemistry of Silicates, AS USSR
2) Gosudarstvennyy issledovatel'skiy elektrokeramicheskiy Institut, Moskva (2) **State Research Institute for Electroceramics, Moscow)**

SUBMITTED: August 2, 1957

Card 2/3

SOV105-58-7-15/32
Constant Wire-Wound Resistances P for Operation in Tropical Climates

1. Resistors--Design

Card 4/5

AUTHORS: Avetikov, V.G., Kostyukov, N.S., Kuznetsov, B.Ye. 32-3-37/52

TITLE: The Modernization of the High-Temperature Vacuum Furnace TVV-2M
(Modernizatsiya vysokotemperaturnoy vakuumnoy pechi tipa TVV-2M)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 356-358 (USSR)

ABSTRACT: A modification of the laboratory furnace TVV-2M produced by the "Platino Devices" is described. The modification consists mainly in exchanging the existing tungsten heating elements for such with graphite and the simultaneous increase of dimensions. At working temperatures of more than 2200° C the tungsten heating elements can again be used. Experiments showed that the durability of graphite furnaces is three to four times greater than that of tungsten furnaces and amounts to about 500 working hours, apart from the fact that the former are considerably less expensive. Whereas tungsten furnaces take one day for melting at 1700 to 1900° C, five melts can be carried out per day in graphite furnaces because the latter are not so sensitive to temperature and vacuum when being switched off, which means a considerable saving of time. An autotransformer of the type PH-75 produced by

Card 1/2

The Modernization of the High-Temperature
Vacuum Furnace TVV-2M

32-3-37/52

the "Gosteasvet" plant was built into the reconstructed furnace.
Two schematical drawings showing the two furnaces and the
necessary explanations are given. There are 2 figures.

ASSOCIATION: State Scientific Research Institute for Electroceramics
(Gosudarstvennyy nauchno-issledovatel'skiy elektrokeramicheskiy
institut)

AVAILABLE: Library of Congress

1. Laboratory Furnace-Modification

Card 2/2

DOLGOV, B.N., doktor khim.nauk; KHARITONOV, N.P., kand.khim.nauk;
BELINSKAYA, G.V., kand.tekhn.nauk; AVETIKOV, V.G., kand.tekhn.
nauk

PT wire-wound resistors useable under tropical conditions.
Vest.elektroprom. 29 no.12:61-65 D '58. (MIRA 11:12)
(Electric resistors)

AUTHORS: Ayatikov, V. G., Zin'ko, E. I., S/072/60/000/03/007/023
Zasedateleva, N. A. B003/B008

TITLE: High-frequency Ceramics ¹⁵ on Wollastonite Basis

PERIODICAL: Steklo i keramika, 1960, Nr 3, pp 25-29 (USSR)

ABSTRACT: Wollastonite has lately been used increasingly for electro-ceramics owing to its favorable electric properties. In the Soviet Union there are larger wollastonite deposits in the following regions: in the region north of the Balkhash Lake, in the "Western Dzhangalyk" Mines in Northern Tadzhikistan, where wollastonite accumulates as barren rock and goes into backfilling, in the Aldan region of the Yakutskaya ASSR; according to information from the Institut geologii AN Uzbekskoy SSR (Institute of Geology of the AS of the Uzbekskaya SSR) in the Nakpay deposit, but also in other deposits of Uzbekistan: Lyangar, Koytash, Ingichka, Chatkal'skiy Range. Wollastonite from Dzhangalyk was investigated. The most important impurities are epidote, diopside and sphene. The material was cleaned twice (Table 2) with the separator 138-SE at the laboratoriya elektricheskikh i magnitnykh metodov obogashcheniya, Institut gornogo dela AN SSSR (Laboratory for Electric and Magnetic Dressing Methods of the Institute of Mining AS USSR); analyses are given in table 3. A ceramic mass

Card 1/2

High-frequency Ceramics on Wollastonite Basis

S/072/60/000/03/007/023
B003/R008

was produced with an addition of 10% barium carbonate and 20% clay from Chasov Yar; the electric properties were investigated (Fig 1). Since wollastonite changes practically irreversibly into pseudowollastonite, at about 1250° with a change in structure, it was the main thing to lower the firing temperature. Four masses were produced: VD-6 with 5% lead boron glass, VD-7 with 5% ascharite, VD-8 with 10% quartz sand and VD-9 with 3% boracite glass. The investigation with the petrographic microscope was carried out by E. I. Medvedovskaya (Figs 2-4). The firing temperatures are 1120, 1210, 1290, and 1300°. For wollastonite from Dzhangalyk the change into pseudowollastonite occurs at 1290°. There are 4 figures and 5 tables.

Card 2/2

AVETIKOV, V.G., kand.tekhn.nauk; ZIN'KO, E.I., kand.tekhn.nauk; ZASEDATELEVA,
~~LESNII~~ inzh.; LESNIIKOVA, L.A., inzh.

Steatite with an expanded temperature range of vitrification. Trudy
GIEKI no.4:34-46 '60. (MIRA 15:1)
(Ceramics) (Electric insulators and insulation)

04002

S/181/6C/002/010/025/051
B019/B056

24,2400(1144,1162,1385)

AUTHORS: Avetikov, V. G., Zlatkis, A. S., Mashkovich, M. D.,
and Rozenberg, N. Yu.

TITLE: An Investigation of the Dielectric Losses¹¹ and the
Dielectric Constants of Several Forms of Ceramics in the
Super-high Frequency Range

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 1C, pp. 2497-2504

TEXT: The authors give the results of measurement of ϵ and $\tan\delta$ in the
frequency range of $7 \cdot 10^4 - 3.75 \cdot 10^{10}$ ω and for temperatures between
20 - 500°C, for two steatite ceramics of the types CK-1 (SK-1)¹² and
TK-21 (TK-21), mullite-corundum ceramics of the type M-2 (M-2) and
insulation porcelain of the type M-23 (M-23). Measurements at radio-¹⁵
frequencies were carried out with Q-meters of the types KB-1 (KV-1) and
YK (UK).¹⁶ For measurements up to 10^{10} c, a resonator device (Fig. 1)
having a cylindrical volume resonator developed at the VNIIFTRI, was

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84602

An Investigation of the Dielectric Losses and
the Dielectric Constants of Several Forms of
Ceramics in the Super-high Frequency Range

S/181/60/002/010/025/051
B019/B056

used. For measurements carried out at high temperatures, the wave guide shown in Fig. 2 was used. In Fig. 3, ϵ and $\tan\delta$ are graphically represented as functions of the frequency for the materials investigated here. In Figs. 4-7, ϵ and $\tan\delta$ of the above mentioned materials are shown as functions of temperature for the frequencies $7 \cdot 10^4$, 10^7 , 10^6 , and

10^{10} c. It is found that in all materials ϵ decreases on transition from radiofrequencies to super-high frequencies and $\tan\delta$ increases. The increase of ϵ and $\tan\delta$ with an increase of temperature is considerably lower at 10^{10} c than at other frequencies. The degree of this change depends on the composition, and the kind of structure. There are 7 figures, 1 table, and 8 references: 7 Soviet and 1 US.

SUBMITTED: October 3, 1959 (initially), March 7, 1960 (after revision)

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S/072/61/000/003/002/003
B105/B206

AUTHORS: Avetikov, V. G., Zin'ko, E. I.

TITLE: Effect of ferrous oxides on the properties of steatite electroinsulation ceramics

PERIODICAL: Steklo i keramika, ¹⁸no. 3, 1961, 19-22

TEXT: The effect of low-ferriferous and ferriferous talcs from the Shabrovskiy i Miass deposits on the properties of steatite ceramics was investigated at the Gosudarstvennyy issledovatel'skiy elektrokeramicheskiy institut (State Research Institute of Electroceramics). The applicability of talc from the Shabrovskiy deposit as well as the effect of the gas medium during firing on the properties of steatite ceramic materials were studied in this paper. N. A. Zasedateleva assisted in the experiments. Shabrovskiy floated talc and low-ferriferous talc from the Onotskoye deposit, for comparison, were used for the experiments. The chemical compositions of these talcs are mentioned in Table 1. Table 2 gives the content (in %) of ferrous oxides in fired samples on the basis of chemical

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Effect of ferrous oxides on the properties...

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analysis and, for comparison, their total content as Fe_2O_3 . During firing in an oxidizing gas medium, the major part of iron is present in the form of oxide (ic) (Fe_2O_3), and the minor part in the form of oxide (ous) (FeO). Firing in a regenerating gas medium brings on inverse results. The petrographic study of the samples (by the petrographer E. I. Medvedovskaya) showed that they mainly consisted of crystalline meta-silicate magnesium as well as glass which was distributed evenly enough and showed different refractive indices. Experiments showed that an increase of ferrous oxides (from 0.87 up to 7%) in the composition of steatite ceramics on the basis of Onotskoye talc led to a gradual decrease of the sintering temperature from 1290 to 1210°C, independently of the gas medium. The change of electrical, mechanical and thermal values of steatite ceramics, dependent on the content of ferrous oxides (converted to Fe_2O_3), as well as of the gas medium during firing, is represented in Figs. 1 and 2. In conclusion, the authors make the following statement: the improvement of all characteristic values of the material, prepared on the basis of Shabrovskoye talc, during firing in the regenerating gas medium is due to an increased content of iron (II) oxide in the vitreous phase, and a

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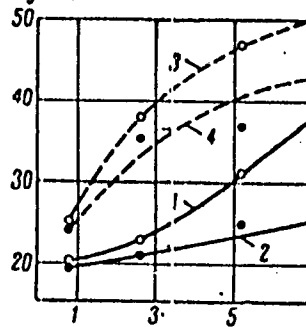
reduced content of iron (III) oxide. The increase in strength of the ceramics causes an increase of their thermal stability. The structural changes in the lattice of silica glass on the introduction of iron (III) oxide are different, and depend on the composition of the glass and its oxygen content. Studies showed that the increase of bivalent iron cations in steatite ceramics in the form of oxide (ous) had a positive effect on its properties. A comparison of ceramic materials on the basis of the Onotskoye and Shabrovskiy talcs with equal content of ferrous oxides in the masses (FeO and Fe₂O₃) showed great differences in their properties. The stratified structure of the Shabrovskiy talc is described as being the cause for the poor thermal stability of steatite ceramics prepared on its basis. If the ratio Fe₂O₃ : FeO is more than unity with equal composition of the mass, the properties of the material become worse. The presence of up to 7% ferrous oxides in steatite ceramics at the ratio Fe₂O₃ : FeO < 1 improves the tanδ of dielectric losses, the mechanical strength and thermal stability. Shabrovskoye talc is not recommended for the manufacture of steatite ceramics owing to its stratified structure. The use of talcs with stratified structure must still be investigated. There are 2 figures, 3 tables, and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc.

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Legend to Fig. 1: 1) temperature 20°C, fired in oxidizing medium; 2) ditto, fired in reducing medium; 3) temperature 80°C, fired in oxidizing medium, 4) ditto, fired in reducing medium; f = 1 mc/sec
a) content of Fe₂O₃.



Legend to Table 1: a) content, b) talc, c) sum, d) Onotskoye, e) Shabrovskiy, floated.

Талк	Содержание в %						Σ сумма
	п. п. п.	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	
д) ОНОТСКИЙ	4,99	61,22	0,13	0,88	Следы	32,53	100,03
е) ШАБРОВСКИЙ ФЛОТИРОВАННЫЙ	7,42	56,39	0,30	3,12	0,09	32,31	100,23

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Legend to Fig. 2: 1) bending strength, fired in oxidizing medium; 2) ditto, fired in reducing medium; 3) thermal stability on firing in oxidizing medium; 4) ditto, on firing in reducing medium, a) content Fe_2O_3 , b) bending strength, kz/cm^2 , o) thermal stability, $^{\circ}C$.

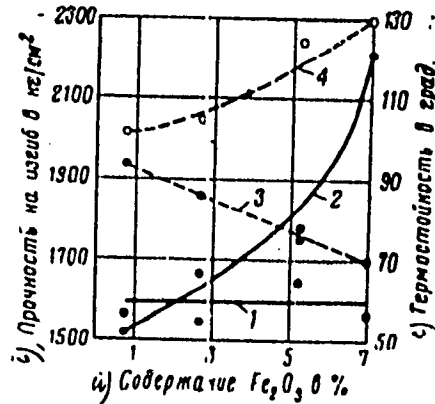


Рис. 2

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Effect of ferrous oxides on the properties...

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Таблица 2

№ массы	Fe ₂ O ₃ по расчету	В окислительной газовой среде				В восстановительной газовой среде			
		Fe ₂ O ₃	FeO	Fe ₃ O ₄ FeO	сумма оксидов в пересчете на Fe ₂ O ₃	Fe ₂ O ₃	FeO	Fe ₃ O ₄ FeO	сумма оксидов в пересчете на Fe ₂ O ₃
1	0,87	0,63	0,24	2,6	0,90	0,32	0,50	0,64	0,88
2	2,60	1,80	0,72	2,5	2,60	0,47	1,90	0,25	2,58
3	5,00	4,10	0,76	5,4	4,95	0,80	3,72	0,21	4,95
4	7,00	5,60	0,86	6,5	6,56	0,82	5,16	0,16	6,56
5	2,60	1,98	0,81	2,5	2,88	0,86	1,91	0,45	2,98

Legend to Table 2: 1) No. of the mass; 2) Fe₂O₃ calculated; 3) in oxidizing gas medium; 4) in reducing gas medium; 5) sum of oxides calculated as Fe₂O₃.

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S/196/63/000/003/005/012
A052/A1.26

AUTHORS: Avetikov, V.G., Hin'ko, E.I., Zasedateleva, N.A., Lesnikova, L.A.

TITLE: Steatite with a widened baked state interval

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no. 3,
1963, 12, abstract 3B74. (Tr. Gos. issled. elektrokeram. in-ta,
no. 4, 1960, 34 - 46)

TEXT: On account of small $tg\delta$ and high mechanical strength steatite ceramics find a wide application in the production of radio elements, high-voltage and high-frequency insulators and electrical mounting materials. One of the characteristics of steatite materials is a relatively narrow baked state interval (baking interval) which makes the baking of products in flame furnaces difficult. The reason for this is the formation at high temperatures of fusions with a low viscosity and a rapid growth of the amount of the fusion with an increase of temperature, with the result that the baking of the material proceeds very rapidly. To create a steatite with a widened baking interval it was necessary to raise the viscosity of the forming fusion. Besides, it was provided for the possibility of producing objects from the

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Steatite with a widened baked state interval

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processed compound by means of stamping and extruding. The development of steatite for electrical mounting materials admitting a large t_g enabled one to use as a flux feldspars (3 - 5%) and pegmatites (7%) making it possible to raise the viscosity of the fusion in baking and to widen this way the baking interval. According to previous investigations it could be achieved by introducing such additions as silica, alumina, magnesium oxide, calcium oxide and others. To add plasticity, Chasovyarsk clay (13%) and Oglanlinsk bentonite (3%) were added to the experimental compounds. The greater part (70%) of Onotsk talc was added in a baked (1,573 - 1,623°K or 1,300 - 1,350°K) form. Experimental compounds were produced by wet milling in ball mills with steatite balls to 0.7 - 1% remainder on the sieve no. 006. An addition to the compounds of up to 7% pegmatite and its substitution with feldspars of different mineralogical compositions gave no positive result. An increase of the feldspar percentage in the compounds increased the vitreous-phase content and resulted in a decrease of the mechanical strength of steatite. To improve the technological properties Chasovyarsk clay (15%) and bentonite (5%) were added to the compounds at the expense of baked talc. An addition of 3% alumina to this compound shortens the baking interval and reduces bending strength σ_n ; an addition to the compound of up to 10% quartz sand widens the

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baking interval to just 20°K and reduces σ_n . An addition of magnesite (3 - 12%) and in particular of chalk (4 - 6%) has a positive effect on properties of steatite. A combined addition of magnesite and chalk gave no positive results. The widest baking interval (40°K), maximum density and $\sigma_n = 1,530 \text{ kg/cm}^2$ had steatite with 4% Belgorod chalk and 5% pegmatite; its vitreous-phase content was 43%. To reduce the vitreous-phase content to 30% the amount of fluxes (pegmatite, chalk, bentonite) in the compound CNK-2 (SPK-2) of optimum composition was decreased. Pegmatite was added in fine-dispersed state (the remainder on the sieve no. 006 up to 2%) as a result of combined milling with Chasovyarsk clay. Samples of steatite SPK-2 produced by plastic technology had the following characteristics: baking temperature 1,553°K (1,280°C), baking interval 40°K, volumetric weight 2.66 g/cm³, specific toughness 3 kp · cm/cm², tensile strength 730 kp/cm², $\sigma_n = 1,500 \text{ kp/cm}^2$, $\epsilon = 5.9$, $\text{tg } \delta = 20 \cdot 10^{-4}$ (at $f = 1 \text{ Mcyclo}$), $\rho = 5.1 \cdot 10^{13} \text{ ohm} \cdot \text{cm}$; $E_{00n} = 40 \text{ kw/mm}$, pulse heat stability 130°K. Press-powder of the following composition was selected: 82% SPK-2 compound ground to pass through the no. 2 sieve, 10% water, 5% kerosene, 3% wood resin. There are 8 figures, 6 tables, and 7 references.

N. Nikulin

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Editors' note: In the paper, frequencies are erroneously measured in mcyclus (millicycles) instead of Mcycles (megacycles) and forces in kg (kilogrammes) instead of kp (kiloponds).

[Abstracter's note: Complete translation]

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