

FINKEL'SHTEYN, M.O., kand.med.nauk

Collateral lymph circulation in experimental obliteration  
of the thoracic lymph duct. Khirurgiia no.11:116-118 '61.

(MIRA 14:12)

1. Iz kafedry normal'noy anatomii (zav. - prof. F.P. Markizov)  
Kuybyshevskogo meditsinskogo instituta.  
(LYMPH) (THORACIC DUCT--DISEASES)

FINKEL'SHTEYN, M.O. (Kuybyshev (obl.), Nekrasovskaya ul., 20, kv.39)

Veins of the glossal mucosa in man. Arkh. anat., gist. i embr. 42  
no.3:108-114 Mr '62. (MIRA 15;5)

1. Kafedra normal'noy anatomii (zav. - prof. F.P.Markizov) Kuybyshev-  
skogo meditsinskogo instituta.  
(VEINS) (TONGUE---BLOOD SUPPLY)

FINKEL'SHTEYN, M.O. (Kuybyshev (obl.), Nekrasovskaya ul., 20, kv.39)

So-called venous sinuses in the spinal canal under normal conditions and following the disconnection of the caudal vena cava from the heart. Arkh. anat., gist. 1 embr. 44 no.2:72-79 F '63. (MIRA 17:2)

1. Kafedra normal'noy anatomii (zav. - prof. F.P. Markizov) Kuybyshevskogo meditsinskogo instituta.

FINKEL'SHTYIN, M.S.

Mechanizing loading and unloading operations in the manufacture of yeast. *Gidroliz. i lesokhim. prom.* 11 no.2:28-29 '58. (MIRA 11:3)

1. *Giprogidroliz.*

(Yeast) (Loading and unloading)

FINKEL'SHTEYN, M.S.

FINKEL'SHTEYN, M.S.

Digesters made of prestressed reinforced concrete. Gidroliz. i  
lesokhim. prom. 8 no.1:26-27 '55. (MLRA 8:10)

1. Glavnyy konstruktor stroitel'nogo otdela Gosudarstvennogo  
Instituta po proyektirovaniyu zavodov  
(Autoclaves) (Reinforced concrete construction)

FINKEL'SHTEYN, M.S., inzh.

Modernized nine-story hydraulic press for producing boards  
from wood wastes. Stroi. mat. 9 no.6218 Je '63.  
(MIRA 17:8)

FINKEL'SHTEYN, M.S.

The S-45 - type hydraulic machine for cutting reinforcement  
steel. Biul.tekh.-ekon.inform. no.6:29-30 '58. (MIRA 11:8)  
(Cutting machines)

FINKEL'SHTEYN, M.S.

Pipe-laying machines used in building oil and gas pipelines.  
Biul.tekh.-ekon.inform. no.10:11-12 ' 58. (MIRA 11:12)  
(Pipelines)



FINKEL'SHTEYN, M.S.

Insulating machines used in constructing oil and gas pipelines. Biul.  
tekh.-ekon.inform. no.7:43-44 '58. (MIRA 11:9)  
(Insulating materials) (Pipelines)

FINKEL'SHTEYN, M.S.

Cleaning machines used in building petroleum and gas pipelines.  
Biul. tekhn.-ekon. inform. no.8:46-47 '58. (MIRA 11:10)  
(Pipelines) (Metal cleaning)

FINVEL'SHTEYN, M.S.

The MS-2 double-disk electromagnetic separator. Biul.tekh.-ekon.  
inform. no.9:11-13 '58. (MIRA 11:10)  
(Separators (Machines))

FINKEL'SHTEYN, M.S.

Horizontal boring machines used in construction of petroleum  
and gas pipelines. Biul.tekh.-ekon.inform. no.9:43 '58.

(MIRA 11:10)

(Boring machinery) (Pipelines)

FINKEL'SHTEYN, M.S.; NIKOLAKHIN, M.G.

The OVPT-500 turbo-pump high-pressure unit. Biul. tekhn.-ekon.  
inform. no.10:38-41 '59. (MIRA 13:3)  
(Steam turbines)

S/193/60/000/006/009/015  
A004/A001

AUTHOR: Finkel'shteyn, M.S.

TITLE: The OCPT-320 (OSPT-320) Turbine Pump Assembly

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, 1960, No. 6, pp.  
36 - 38

TEXT: The Leningradskiy mashinostroitel'nyy zavod "Ekonomayzer" (Leningrad "Ekonomayzer" Mechanical Engineering Plant) has designed and brought out a prototype of the superhigh-pressure OSPT-320 turbine pump assembly. The assembly has been devised for operation in expanding power-stations of normal pressure fitted with superhigh-pressure units for the feeding of boilers with 220 atm steam pressure and temperature superheating of 400°C. The turbine pump assembly is composed of the following independent units: an active-type steam turbine driving the assembly units, a feed pump delivering the feed water to the boiler, a reducer reducing the number of revolutions from 8,500 (turbine rotor) to 4,400 (main oil pump) rpm, a steam box with valves and servomotors for steam distribution, the lubrication system, including lubrication pumps, filters, oil tank coolers and oil pipings, and the automatic control and protection units. The steam turbine

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The OCNT -320 (OSPT-320) Turbine Pump Assembly

S/193/60/000/006/009/015  
A004/A001



and feed pump are mounted on individual frames and connected by a gear clutch. The steam passage of the turbine has eight single-rimmed pressure stages, the first of which being the regulating stage. The mean diameters of the stages are in the range of 454 - 470 mm. The regulating stage has four nozzle groups, two groups in the upper and lower halves each. The main and auxiliary nozzle groups are actuated in dependence from the counter pressure magnitude (1.2 and 1.5 atm) and turbine load (80 and 100%). The turbine has a seamless forged rotor made of alloyed steel. The eight impeller disks and the shaft are made in one piece. The turbine stator consists of the body and turbine cover and the body and cover of the exhaust pipe. The feed pump has four impellers. The water enters the suction chamber through the intake pipe, subsequently passes all the stages, gets into the ring-shaped hollow and, through the pressure pipe, is delivered to the feed mains of the boiler. The pump rotor is not dismountable and consists of the shaft, four impellers, jacket, face end suction and pressure seals and discharging disk. The lubrication system ensures the compulsory lubrication of all bearings, gears and clutches and also supplies pressurized oil to the control and protection system. The control and protection unit of the turbine pump assembly is composed of: the pressure governor, which reacts on pressure variations behind the first stage of the feed pump and, through a hydraulic connection, acts on the piston of the

Card 2/3

The OCNT -320 (OSPT-320) Turbine Pump Assembly

S/193/60/000/006/009/015  
A004/A001

servomotor of the governing valve, the start valve, actuated by an electromotor via reducer, the oil mains connected to the servomotor of the governing valve, an electromagnetic valve, whose slide is displaced when the electromagnet starts working and which acts on the servomotor of the out-off valve. The electric circuit of the installation provides for a signalization of the positions of the stop-valve, start valve and blow-through valves, of an increase in injection pressure and of a superheating of the thrust bearing higher than 60°C. The following technical data are given: pump capacity - 380 m<sup>3</sup>/h; injection pressure - 280 atm; temperature of condensate being pumped - 228°C; pressure at the suction pipe - 50 atm; rpm of the feed pump - 8,500; weight of the turbine pump assembly 13,500 kg; turbine specifications: capacity - 340 kw; pressure of live steam before the stop valve - 29 atm; temperature of live steam before the stop valve - 400°C; exhaust steam pressure - 1,2/1,5 atm; steam consumption - 24,0-29,7 ton/h; turbine rpm - 8,500; critical number of rotor revolutions - 4,310 rpm. The governing system of the turbine pump installation makes it possible to increase the efficiency by 12,5% since the necessary power is maintained for the given conditions of boiler operation. ✓

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FINKEL'SHTEYN, M.S.

The S-449 helical pneumatic feeder. *Biul.tekh.-ekon.inform.* no.5:40-41  
'60. (MIRA 14:3)

(Pneumatic-tube transportation)

RINKEL'SHTEYN, M.S., inzh.

Automation of production processes in the machinery industry.  
Mekh.i avtom.proizv. 15 no.8:11-13 Ag '61. (MIRA 14:9)  
(Leningrad Province—Machinery industry)  
(Automation)

FINKEL'SHTEYN, M. Ya.

The Effectiveness of and the Conditions Required for the Application of Phosphobacterins." I. I. Samoylov, E. F. Berezova, A. S. Chernavin, V. V. Bernard, Yu. M. Voznyakovskaya, L. M. Dorosinskiy, R. A. Menkina, and M. Ya. Finkel'shteyn. Trudy Vsesoyuz. Nauch-Issledovatel. Inst. Sel'skokhoz. Mikrobiol. 8, 173-92(1953). Application of phosphobacterins is beneficial to a variety of crops, particularly cereal grains and potatoes, especially in black soil. In soils other than black, the presence of org. matter and of the perennial-grass stratum influence the effectiveness of the added phosphobacterins. Soil treatment with phosphobacterins increases the content of available P in the soil, especially in zones abutting the roots, intensifies the nitrification process and raises the nitrate content of the soil throughout the vegetation period, and increases the content of P in the plants. B.S. Levine

USSR/Soil Science - Organic Fertilizers.

J-4

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39026

Author : Finkelshteyn, M. Ya.

Inst : -

Title : The Increase in Effectiveness of Organic-Mineral Mixture.

Orig Pub : Udobreniye i urozhay, 1956, No II, 27-29.

Abstract : A field experiment was conducted on dark-colored soil in the Vladinirskiy district conducted by Yur ev-Polskiy base of the Vses. in-ta s.-kh mikrobiologii. The experiment consisted in the addition to the organic-mineral mixture (manure - phosphates - dolomite powder) of ammonium nitrate in a dose of 20 kr N or of ammonium molybdate in a dose of 100 g/ha. As a result the activity of all groups of microorganisms and the crop of oats increased by 6.9 by using N and by 1.4 c/ha by using Mo.

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- 15 -

FINKEL'SHTEYN, M.Ya.

Increasing the fertilizing value of manure and organomineral mix-  
tures by bacterization. Trudy Vses. inst. sel'khoz. mikrobiol.  
no.14:209-212 '58. (MIRA 15:4)  
(Fertilizers and manures) (Azotobacter)

FINKEL'SHTEYN, M.Ya.

Effectiveness of dry cultures of nodule bacteria from lupine roots.  
Trudy Vses. inst. sel'khoz. mikrobiol. 16:170-177 '60. (MIRA 13:9)  
(Lupine--Fertilizers and manures) (Nitragin)

FINKEL'SHTEYN, M. Ya., kand.biolog.nauk

Dry nitragin and its use. Zemledelie 23 no.6:53-55 Je '61.  
(MIRA 14:6)

- ) 1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo  
instituta sel'skokhozyaystvennoy mikrobiologii.  
(Soil inoculation)

FINKEL'SHTEYN, M.Ya., kand.biologicheskikh nauk; OVCHINNIKOVA, G.G.

Effectiveness of treating legumes with nitragin. Zemledelie 24  
no.4:67-68 Ap '62. (MIRA 15:4)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo  
instituta sel'skokhozyzstvennoy mikrobiologii.  
(Legumes) (Nitragin)



FINKEL'SHTEYN, M.Z.; TINOKHIN, I.M.; SATIMBAYEV, R.S.; PODLEGAYEV, I.P.;  
MALININA, A.I.

Using low-viscosity preparations of carboxymethylcellulose  
for stabilizing weighted clay muds. Izv.vys.ucheb.zav.; neft'  
i gaz 5 no.4:25-27 '62. (MIRA 16:1)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlen-  
nosti imeni akademika I.M.Gubkina, Namanganskiy zavod  
iskusstvennogo volokna.  
(Cellulose) (Oil well drilling fluids)

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

FINKEL'SHTEYN, M. Z.

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**Sulfonating action of dialkyl sulfates. Interaction of diethyl sulfate with methyldiphenylamine and with some others. V. N. Belov and M. Z. Finkel'shtein (Moscow Chem. Tech. Inst., Mendeleeva). *J. Gen. Chem.* (U.S.S.R.) 10, 1243-54(1940) (in Russian). -It is believed that the sulfonation by alkyl sulfates goes by 2 paths: sulfonation by SO<sub>3</sub> formed from decompn. of dialkyl sulfate and sulfonation by alkylsulfuric acid and H<sub>2</sub>SO<sub>4</sub>, which result from the alkylation reaction and from hydrolysis of the dialkyl sulfate. In the case of Me<sub>2</sub>SO, the 1st instance is the major factor, while in Et<sub>2</sub>SO, the 2nd is apparently important. Ph<sub>2</sub>NMe (18.3 g.) and 15.4 g. Et<sub>2</sub>SO, were heated to 140-5° for 3 hrs.; 3.8 g. EtOH and Et<sub>2</sub>O distd. from the mixt.; treatment of the mass with water and boiling of the resulting oil with aq. KOH gave 4 g. unreacted Ph<sub>2</sub>NMe and 13.6 g. mixed K salts of methyldiphenylaminemono- and disulfonic acids. Similar treatment of PhOMe 6 hrs. at 100-5° gave some gaseous products, 3.1 g. mixed EtOH and Et<sub>2</sub>O, 0.5 g. unreacted PhOMe, and 20 g. K anisole-p-sulfonate. Similar reaction of Ph<sub>2</sub>O at 100-70° (initial reaction started at 100°) 4 hrs. gave 5.5 g. mixed EtOH-Et<sub>2</sub>O, 2.7 g. unreacted Ph<sub>2</sub>O, and 20 g. K p-phenoxybenzenesulfonate. (Iso-Am)<sub>2</sub>O under the above conditions was substantially decompt. with formation of hydrocarbon, C<sub>11</sub>H<sub>8</sub>, b. 33-40° (which formed a dibromide, b. 165-70°), and a small amt. of iso-AmOEt, b. 110-13°. G. M. Kosolapoff**

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX      COMMON ELEMENTS      COMMON VARIETIES INDEX

182983 MID CHEM GSE      221187 CHEM CHEM 181

FINKELSTEIN, M. S.

Belov, V. N., and Finkelstein, M. S.-"On the Sulphonating Action of Dialkylsulphates. IV. Interaction of Diethyl and Dimethyl Sulphate with Thio-p-Crezol and Thio-3-Naphtol." (p. 746)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1947, Vol. 17, No. 4



FINKEL'SHTYIN, M.Z.; POSPELOV, V.A.; GOLOSHCHAPOVA, I.S.

Paste made of carboxymethyl ether of cellulose. Der.prem.5 no.8:  
12-13 Ag '56. (MLEA 9:10)  
(Paste) (Wood--Chemistry)

FINKEL'SHTEYN, M. Z.,

Finkel'shteyn, M. Z., K. F. Zhigach, Ye. M. Mogilevskiy, T. A. Tibilova, and  
A. I. Malinina. "Carboxymethyl Ethers of Cellulose and Their Use in Industry"

Problems of Petroleum Production and Petroleum Engineering, Moscow, Neftyanoy  
institut, Gostptekhnizdat, 1957, 393pp. (Trudy vyp. 20)  
This book is a collection of articles written by professors and faculty members  
of the Petroleum Inst. in I. M. Gubkin.

FINKEL'SHTEYM, M.Z.

ZHIGACH, K.F., doktor khimicheskikh nauk; FINKEL'SHTEYM, M.Z., kandidat khimicheskikh nauk; MOGILEVSKIY, Ye.M., kandidat tekhnicheskikh nauk.

Production and use of cellulose carboxymethyl ether in the national economy. Khim.nauka i prom. 2 no.1:76-80 '57. (MLRA 10:4)  
(Cellulose)

FINKEL'SHTEYN, M.Z., kand.tekhn.nauk; ZHIGACH, K.F., prof., doktor khimi-  
cheskikh nauk; MOGILEVSKIY, Ye.M., kand.tekhn.nauk; TIBILOVA,  
T.A., inzh., MALININA, A.I.

Carboxymethyl ethers of cellulose and their use in the national  
economy. Trudy MNI no.20:67-92 '57. (MIRA 13:5)  
(Cellulose)



ZHIGACH, K.F.; FINKEL'SHTYIN, M.Z.; TIBILOVA, T.A.

Developing special carboxymethyl cellulose varieties for better drilling muds and improving production techniques. Izv. vys. ucheb. zav.; neft' i gaz no.6:31-38 '58. (MIRA 11:9)

1. Moskovskiy neftyanoy institut im. akad. I.M. Gubkina.  
(Cellulose) (Oil well drilling muds)

FINKEL'SHTEYN, M.Z.; TIMOKHIN, I.M.; MUKHAMEDOV, Kh.U.

Quantitative determination of the sodium salt content of carboxymethyl cellulose. Izv.vys.ucheb.zav.; neft' i gaz 1 no.12: 45-50 '58. (MIRA 12:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad.I.M.Gubkina i sovmarkhoz Ferganskogo ekonomicheskogo rayona.

(Cellulose)

(Oil well drilling fluids)

5(1,3)

SOV/20-123-2-22/50

AUTHORS: Zhigach, K. F., Finkel'shteyn, M. Z., Timokhin, I. M.,  
Malinina, A. I.

TITLE: Production of Carboxy-Methyl Cellulose Fractions and Investi-  
gation of Its Physical and Chemical Properties (Polucheniye i  
issledovaniye fiziko-khimicheskikh svoystv fraktsiy  
karboksimetiltsellyulozy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 289-291  
(USSR)

ABSTRACT: This water soluble sodium salt of the cellulose carboxy-methyl  
ester (CMC) has found widespread use in the last years as a  
stabilizer, emulsifier, active addition to synthetic deter-  
gents, as a glue etc. (Refs 1,2). CMC is a complex polydisperse  
product consisting of various fractions that differ from each  
other by their chemical composition (Ref 3) and their physical  
and chemical properties. CMC can be produced with different  
values of the esterification and polymerization. Therefore not  
every CMC type is suited for the purpose. Only single types  
can be practically used in the one or other branch of industry:  
this must be determined in every single case. The connection

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SOV/20-123-2-22/50

Production of Carboxy-Methyl Cellulose Fractions and Investigation of Its Physical and Chemical Properties

between the chemical composition of the CMC samples and their properties and behaviour has remained unexplained until now. These samples almost ever contain a certain amount of small fibers that are difficult to solve and are capable of swelling, the so-called gel-like phase, the content of which can influence in a high degree the properties (especially the rheological properties, Ref 4) of CMC solutions. For these reasons the authors wanted to close this gap. Four samples of CMC were chosen as objects: a) That used for stabilizing loam solutions in drilling (Refs 2,5), b) That serving for the stabilization of silicate salt solutions when drilling into water-endangered and easily sliding soft rocks (Ref 2), and as a glue (Ref 6). c) German samples of the type VHR, d) A special CMC preparation of low viscosity. Besides its fractionation by means of methanol or acetone samples a - c are separated into the gel- and sol-like phases by centrifuging. I The viscosity, II the stabilizing effect were determined of the fractions obtained. The viscosity of the aqueous solutions of CMC above 0.1% does not obey the Newton law. In the 0.05% solutions investigated

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SOV/20-123-2-22/50

Production of Carboxy-Methyl Cellulose Fractions and Investigation of Its Physical and Chemical Properties

the viscosity anomaly was almost completely lacking. The stabilizing effect of the CMC fractions was determined by the filtration analysis with a pressure drop of 1 atmosphere absolute pressure. Table 1 gives the results. As may be seen, the fractionation tends to show a heterogeneity of the CMC with respect to the degree of polymerization and esterification. The properties of the fractions change according to rules with the order of the isolation of the latter: lower polymerized fractions are esterified in a higher degree. The fractions produced by precipitation are not of equal value with respect to their stabilizing properties. It was also shown that the gel-like phase has only a weak stabilization and effect. Besides the degree of polymerization and esterification this must be taken into account. The ratio of the gel- and sol-like phase is not only important when used as a stabilizer of loam solutions. The gel-like phase is the most effective when using it as a glue. There are 1 table and 7 references, 4 of which are Soviet.

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SOV/20-123-2-22/50

Production of Carboxy-Methyl Cellulose Fractions and Investigation of Its  
Physical and Chemical Properties

ASSOCIATION: Moskovskiy neftyanoy institut im. I. M. Gubkina (Moscow  
Petroleum Institute imeni I. M. Gubkin)

PRESENTED: July 3, 1958, by A. V. Topchiyev, Academician

SUBMITTED: July 1, 1958

Card 4/4

5(3),17(3)

**AUTHORS:**

Zhigach, K. F., Finkel'shteyn, M. Z.,  
Timokhin, I. M., ~~Malinina, A. I.~~

SOV/20-123-3-25/54

**TITLE:**

Carboxy-Methyl Cellulose Preparations for Blood-Substituting  
Solutions (Polucheniye preparatov karboksimetilttsellyulozy dlya  
krovezameshchayushchikh rastvorov)

**PERIODICAL:**

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 471-474  
(USSR)

**ABSTRACT:**

The sodium salt of the compound under review (Na-CMC) does not considerably change the blood composition if used as a plasma substitute in animals (Ref 1), even not in considerable excess. Na-CMC, however, was negatively characterized since it causes hypertension on intravenous injection. It was useful to try the synthesis of such preparations which also would yield good results with regard to their hemodynamic properties. CMC preparations can be produced with different polymerization degree (PD) and esterification degree (ED). This work was initiated by the institute mentioned in the "Association" together with Tsentral'nyy institut gematologii i perelivaniya krovi - TsOLIPK (Central Institute of Hematology and Blood Transfusion) in 1953.

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FINKELSMTEYN, E. Z., ZHIGACH, K. F., REBINLER, P. A. SIRS-SERBINA, V. N.,  
ADEL, I. B., RUKHIN, L. K., DEMISHEN, V. N., KISTLER, E. G., (SECTION II)

"Physico-Chemical and Technological Investigations of Mud Fluids  
Used for Drilling Wells."

Report submitted <sup>for</sup> the Fifth World Petroleum Congress, 30 May -  
5 June 1959. New York.



FIN K E L I S H T E Y N M. Z.

11(2,4) PHASE I BOOK EXPLOITATION SOV/2336

Moscow. Institut neftekhimicheskoy i gazovoy promyshlennosti. Problemy nefli i gaza (Oil and Gas Problems). Moscow, Gosstoptekhnizdat, 1959. 362 p. (Series: *Uchi Trudy*, pp. 24) Errata slip inserted. 2,000 copies printed.

Sponsoring Agency: Ministerstvo vyzhivaniya obrashchaniya SSSR.

Rev. Ed.: G. F. Morgunova; Tech. Ed.: I. G. Fedotova; Editorial Board: N. P. Zhiguch, Professor (Resp. Ed.), I. N. Murav'yev, Professor, A. A. Babakov, Candidate of Economic Sciences, V. N. Vinogradov, Candidate of Technical Sciences, M. N. Chayzifin, Professor, F. F. Duvayev, Professor, I. A. Chayzifin, Professor, V. N. Babayev, Professor, G. M. Puchobachov, Professor.

PURPOSE: This collection of articles is intended for specialists in the petroleum and gas industry. It will also be of interest to scientific research institutes, teachers and students of universities. COVERAGE: This collection of articles reviews problems connected with natural and synthetic gas production. A number of articles are devoted to the study of regional oil- and gas-bearing zones, the crystalline bed, the Volga-Urals petroleumiferous region, techniques of the Caspian depression, seismic prospecting, oil well logging, development of oil and gas fields, petroleum-bearing formations and their physicochemical characteristics, and petroleum engineering. Other articles deal with gas turbine engines and their possible use in the oil and gas industry, the production of carbonyl compounds, the application of ionic exchange ions to the catalytic treatment, continuous soaking of heavy petroleum residues, (fluidized) acid esters on properties of the oil production, and the influence of a number of photographs, tables, figures, and diagrams, among which those relating to coal gasification and extraction of heavy petroleum residues over a fluidized bed catalyst deserve special attention. References accompany individual articles.

Mikhailov, R. N. Gas Turbine Engines and Prospects of Utilizing Them in Petroleum and Gas Industry 246

Zhiguch, N. P., M. G. Finkel'shteyn, L. M. Khabibin, and Ye. M. Bogdanovskiy. Study of Physicochemical Properties of Fractions and Low Polymerisation Compounds of Carboxymethylcellulose, and Their Production 257

Kochetkov, A. V., Ye. M. Puzhik, I. F. Bayev, M. V. Kurashov, and G. I. Sushchikov. Present State of the Synthesis of Benzene Derivatives and Their Chemical Processing 269

Isaelyants, I. I. Ionic Exchange Tere and Their Application to Organic Catalysis 286

Gurriab, V. L. (Deceased), A. I. Shablo, Ye. V. Sidorovich, V. P. Kozlov, M. S. Kravtsov, V. N. Petrov, A. S. Surayev, and A. A. Shcherbakov. The Process of Continuous Soaking of Heavy Petroleum Residues Carried Out Over a Powdered Coke 298

Cherposhchuk, M. J., I. P. Lukashovich, A. L. Rikhtor, O. G. Susaev, I. P. Maslov, M. P. Sedukhov, I. A. Shcherbakov, I. M. Markov, I. A. Kuznetsov, M. A. Ivanov, and G. G. Glazov. Solubility of Hydrocarbon Oils in Organic Solvents and Possibilities of Improving Lube Oil Manufacturing 311

Malikovskiy, D. S. Synthetic Acid Esters and Their Influence on Properties of Lube Oil and Greases 311 32

ZHIGACH, K.F.; FINKEL'SHTEYN, M.Z.; TIMOKHIN, I.M.

Effect of a low molecular preparation and gel-type fraction of the carboxymethyl cellulose on the stabilizing property of carboxymethyl esters of cellulose in drilling muds. Izv. vys. ucheb. zav.; neft' i gaz 2 no.6:27-31 '59. (MIRA 12:10)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. I.M. Gubkina.  
(Cellulose) (Oil well drilling fluids)

FINKEL'SHTEYN, M.Z.; BORISOV, I.L.

Obtaining cellulose sulfates and studying their effect on  
drilling muds. Izv.vys.ucheb.zav.; neft' i gaz 2 no.11:  
49-53 '59. (MIRA 13:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promy-  
shlennosti imeni akademika I.M.Gubkina.  
(Oil well drilling fluids) (Cellulose)

15.9530

77271  
SOV/63-4-6-5/37

AUTHORS: Zhigach, K. F. (Doctor of Chemical Sciences), Finkelshteyn, M. Z. (Candidate of Chemical Sciences), Mogilevskiy, Ye. M., (Candidate of Technical Sciences) Timokhin, I. M.

TITLE: Water- and Alkali-Soluble Cellulose Ethers

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 6, pp 718-725 (USSR)

ABSTRACT: This is a review of the literature dealing with water- and alkali-soluble cellulose ethers used in the preparation of thickening and stabilizing agents, glues, etc. The solubility of carboxymethylcellulose is determined basically by the degree of its etherification  $\gamma$  and the degree of polymerization DP. The difficulty in obtaining highly substituted carboxymethylcellulose compounds was explained by the fact that in methylation in alkaline and neutral media, the secondary hydroxyl groups have the highest reactivity, and that both secondary hydroxyl groups can be

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Water- and Alkali-Soluble Cellulose Ethers

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SOV/63-4-6-5/37

replaced in methylcellulose compounds (Soobshch. VKhO, 1955, Nr 3, p 9). Carboxymethylcellulose compounds consist of fractions with different degrees of etherification and polymerization. Industrial carboxymethylcellulose nearly always contains an admixture of slightly soluble gel fraction. It was established (DAN SSSR, 1958, Vol 123, Nr 2, 289) that the individual fractions have different stabilizing properties when used as stabilizers of the oil well drilling fluids. The gel fraction has low stabilizing properties, and the stabilizing effect of carboxymethylcellulose compounds solution increases with the decreasing content of the gel fraction, notwithstanding the decreasing viscosity of the solution (Izv. vuzov MVO SSSR, Neft' i gaz, 1959, Nr 6). The viscosity depends on the fraction content, and also on the degree of etherification (DAN SSSR, 1959, Vol 126, Nr 5; RZhKh, 1957, p 10029). With increasing degree of etherification ( $\gamma = 20$  to 200) the viscosity increased to a maximum, decreased

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Water- and Alkali-Soluble Cellulose Ethers

1958  
SOV/63-4-6-5/37

to a minimum, and then increased again. This was explained by two simultaneously acting factors; namely the increasing degree of the macromolecules' asymmetry, due to the introduction of substituents, and the simultaneous decreasing hydration and asymmetry of the macromolecules. Highly etherified carboxymethylcellulose ( $\gamma = 135$  and 198) were not thixotropic (RZhKh, 1957, p 10029). The maximum thixotropy was shown by solutions with  $\gamma = 70$ ; this was explained by the maximum symmetry of the macromolecules at this degree of etherification, which enables them to approach and form a thixotropic solution. The thixotropy decreased with the degree of polymerization. Application of carboxymethylcellulose in drilling fluids is discussed. A special type of carboxymethylcellulose was developed which showed a lower water separation rate from clay suspensions than natural stabilizers, such as starch, rosin, and sodium alginate (Novosti neftyanoy tekhniki, neftepromyslovoye delo, Gostoptekhizdat, 1952, Nr 9; 1953; Nr 6; 1955, Nr 12; 1956, Nr 9; 1957, Nr 7; 1958, Nr 8).

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Water- and Alkali-Soluble Cellulose Ethers

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High-viscosity carboxymethylcellulose compound type GEC was synthesized lately for the improvement of the rheological properties of clayless or clay-poor drilling fluids; these compounds allow for an increase of the drilling speed and elimination of the complicated and labor-consuming clay handling (Nef. khoz., 1958, Nr 1). The applications of carboxymethylcellulose in the detergent industry (Mashob.-zhir. prom., 1958, Nr 7) and ore flotation (Tsvet. met., 1957, Nr 11) is contemplated in the USSR. Carboxymethylcellulose is also used as thickener for textile printing dyes, in the manufacture of glues, and in numerous other industries. Low-molecular-weight highly pure compounds can be used in the preparation of blood plasma substitutes (Trudy Mosk. instituta neftekhim. i gaz. prom., 1959, Nr 24; DAN SSSR, 1958, Vol 123, Nr 3, p 471). The increase in production of carboxymethylcellulose is hampered, however, by the insufficient production of chloroacetic acid. Various syntheses of cellulose sulfates are reviewed, among them the

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Water- and Alkali-Soluble Cellulose Ethers

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sulfation of cellulose with sulfuric acid and methanol mixture (Izv. vuzov MVO SSSR, Neft' i gaz, 1959, Nr 11). Carboxyethylcellulose was obtained in reaction of cellulose with acrylonitrile in the presence of alkali (Avt. svid., 1949, p 77409) and in reaction of acrylonitrile with alkali cellulose (ZhPKh, 1956, Nr 1, p 105). The syntheses of methyl-, ethyl-, and hydroxyethylcellulose as well as mixed cellulose ethers are reviewed. There are 5 figures; and 147 references, 41 U.S., 13 U.K., 1 French, 1 Belgian, 2 Dutch, 3 Canadian, 2 Swiss, 8 Swedish, 1 Japanese, 1 Austrian, 18 German, 56 Soviet, Recent U.S. and U.K. references are: E. H. de Butts, J. A. Hudy, J. H. Elliott, Ind. Eng. Chem., 49, Nr 1, 94 (1957); Chem. Eng. News, 35, Nr 4, 78 (1957); Chem. Trade J., Nr 3620, 905 (1956); Chem. Eng. News, 34, Nr 36, 4253 (1956); J. Swintosky, A. Kaufman, J. Am. Pharm. Ass., 44, Nr 9, 540 (1955).

Card 5/5



ZAYTSEVSKAYA, M.M.; FINKEL'SHTEYN, M.Z.; TIMOKHIN, I.M.

Use of the sodium salt of carboxymethylcellulose in the manufacture of wallpaper. Bum. prom. 34 no.11:9-10 N '59. (MIRA 13:3)

1.Moskovskiy filial Tsentral'nogo nauchno-issledovatel'skogo instituta tsellyuloznoy i bumazhnoy promyshlennosti (for Zaytsevskaya). 4.Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. I.M. Gubkina (for Finkel'shteyn, Timokhin).  
(Wallpaper) (Cellulose)

SOV/20-126-5-31/69

5(4)  
AUTHORS:

Zhigach, K. F., Finkel'shteyn, M. Z., Timokhin, I. M.

TITLE:

The Structural Viscosity of Aqueous Solutions of Carboxymethyl Cellulose (Strukturnaya vyazkost' vodnykh rastvorov karboksimititsellyulozy)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1025-1028 (USSR)

ABSTRACT:

A previous paper (Ref 1) pointed out that carboxymethyl cellulose (CMC) exhibits anomalous viscosity at concentrations exceeding 0.1% in aqueous solutions. Now the effect of the individual fractions of CMC with varying degree of polymerization are investigated with respect to the structure of the solution. Four samples were selected: (1) high-molecular, (2) gel-shaped, (3) sol-shaped, and (4) low-molecular CMC (Table 1). The viscosities measured at different velocity gradient  $G$  (viscosimeter by Pinkevich) confirm F. Höppler's opinion (Refs 2,3), i.e., the viscosity of high-molecular CMC depends on  $G$ , and this dependence increases with increasing concentration. Sample 2 shows the highest degree of anomaly, whereas sample 4 exhibits the least dependence on  $G$  (Table 2). Accord-

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SOV/20-126-5-31/69

The Structural Viscosity of Aqueous Solutions of Carboxymethyl Cellulose

ing to Pasynskiy and Rabinovich (Ref 4) this structural viscosity can be represented by the tangent of the angle of inclination  $\alpha$  in the coordinate system  $\gamma - \lg G$ . Table 3 gives the values for  $\operatorname{tg} \alpha$ , and besides the calculated dynamical shearing stress  $\Theta$ . It is concluded that the structural viscosity is caused by the gel fraction and the interaction of the gel particles. The attempt was made to eliminate the interaction of gel particles by the addition of sample 3 or 4 and by adsorption of the low-molecular particles to the gel particles. This was a success as figures 2,3,4 and table 5 show. Only at high concentrations of sample 4 viscosity increases again, which is explained by complete saturation of the gel particles. Thus, the increased concentration of the CMC becomes effective. The results obtained show that by a proper arrangement of CMC fractions it is possible to control the properties in the desired way. There are 4 figures, 5 tables, and 7 references, 4 of which are Soviet.

ASSOCIATION: Institut neftekhimicheskoy i gazovoy promyshlennosti im.  
I. M. Gubkina (Institute of Petroleum-chemical and Gas Industry  
imeni I. M. Gubkin)

Card 2/3

FINKEL'SHTEYN, M.Z.; TIMOKHIN, I.M.

Obtaining carboxymethyl esters of cellulose from poor grades of raw cellulose. Izv. vys. ucheb. zav.; neft' i gaz 3 no.12:35-37 '60. (MIRA 14:10)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M. Gubkina.  
(Cellulose)  
(Oil well drilling fluids)

TIMOKHIN, I.M.; FINKEL'SHTEYN, M.Z.

Investigation of the colloidal and chemical properties of preparations and fractions of carboxymethylcellulose. Trudy MINKHIGP no.28:26-43 '60. (MIRA 14:4)

(Cellulose)

MUKHAMEDOV, Kh.U.; FINKEL'SHTEYN, M.Z.

Developing and perfecting the technology of the production of  
carboxymethyl cellulose ethers with the use of the raw materials  
and equipment of viscose fiber plants. Trudy MINKHIGP no.28:179-  
197 '60. (MIRA 14'4)

(Cellulose)

ZHIGACH, K.F.; YEZHOV, P.A.; FINKEL'SHTEYN, M.Z.

Effect of additives of water soluble cellulose ethers on the permeability and mechanical properties of cement stone. Izv. vys. ucheb. zav.; neft' i gaz 3 no.10:27-30 '60. (MIRA 14:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M.Gubkina.  
(Cellulose ethers) (Cement)

BUNIN, A.Ya., kand.med.nauk; YAKOVLEV, A.A., nauchnyy sotrudnik;  
POZHARSKAYA, A.M., kand.khim.nauk; CHERNIK, L.Ye., nauchnyy  
sotrudnik; FINKEL'SHTEYN, M.Z., kand.khim.nauk; TIMOKHIN, I.M.,  
kand.khim.nauk

Method for increasing and prolonging the hypotensive action  
of pilocarpine. Vest.oft. no.4863-65 '61. (MIRA 14:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut glaznykh  
bolezney imeni Gel'mgol'tsa (for Bunin, Yakovlev). 2. Vsesoyuznyy  
nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut  
imeni S. Ordzhonikidze (for Pozharskaya, Chernik). 3. Institut  
neftekhimicheskoy i gazovoy promyshlennosti imeni I.M. Gubkina  
(for Finkel'shteyn, Timokhin).  
(PILOCARPINE)



DKHARIYAL, Ch.D.; ZHIGACH, K.F.; MALININA, A.I.; TIMOKHIN, I.M.;  
FINKEL'SHTEYN, M.Z.

Effect of production techniques of carboxymethylcellulose  
on its etherification and solubility in water. *Izv.vys.ucheb.*  
*zav.; neft' i gaz* 5 no.2:29-34 '62. (MIRA 15:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy  
promyshlennosti imeni akademika I.M. Gubkina.  
(Cellulose)

FINKEL'SHTEYN, M.Z.; DKHARIYAL, Ch.D.; TIMOKHIN, I.M.; MALININA, A.I.

Effect of successive additions of reagents and the degree of polymerization of cellulose on the degree of esterification and solubility of carboxymethylcellulose in water. Izv. vys. ucheb. zav.; neft' i gaz 5 no.11:31-34 '62.

(MIRA 17:6)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M. Gubkina.

DKHARIYAL, Ch.D.; TIMOKHIN, I.M.; FINKEL'SHTEYN, M.Z.

Production of cellulose carboxymethyl ethers. Zhur.prikl.khim.  
35 no.2:429-440 F '62. (MIRA 15:2)  
(Cellulose)

41413

S/069/62/024/005/004/010  
B106/B186

157407

AUTHORS:

Zhigach, K. F., Luft, B. D., Finkel'shteyn, M. Z.,  
Goloshchapova, I. S., Timokhin, I. M., Chuvilina, L. B.

TITLE:

Investigation of aqueous alundum suspensions stabilized by  
carboxy-methyl cellulose for electrophoretic coating

PERIODICAL: Kolloidny zhurnal, v. 24, no. 5, 1962, 558 - 564

TEXT: The effect of several physicochemical characteristics of sodium carboxy-methyl cellulose (Na-CMC) on its efficiency as a stabilizer for aqueous suspensions of alundum for electrophoretic coating was studied. The sedimentation stability of the suspension is raised with increasing degrees of polymerization, etherification, and Na-CMC concentration in the suspension. Greater thickness of coatings is obtained with an increasing degree of polymerization of Na-CMC, while increasing etherification resulted in thinner coatings. The homogeneity of coatings improves with a lower degree of polymerization, and a higher degree of etherification and Na-CMC concentration. The anodic gas evolution, which is very detrimental to the quality of coatings, increases with etherification and Na-CMC concentration

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Investigation of aqueous alundum...

S/069/62/024/005/004/010  
B106/B186

in the suspension, and is reduced by an increasing degree of polymerization. The resistance of coatings to 0.05 N NaOH increases with concentration, degree of polymerization, and etherification of Na-CMC. Electron-microscopic measurements showed that the stabilizing effect of Na-CMC is based on the adsorption of high-molecular ions (CMC)<sup>-x</sup> to the alundum particles, and on the formation of structurized protecting gels which prevent the joining of the individual particles. The best coatings are obtained by stabilizing the alundum suspensions with purified Na-CMC having a degree of polymerization of 500-550 and a degree of etherification of 70-80 in a concentration of 0.3-0.5% of the aqueous phase. The results were used in developing a new industrial technique of producing electrophoretic insulating coatings from aqueous alundum suspensions on parts of electron tubes. Thus, the use of toxic and inflammable organic solvents and of nitrocellulose can be abandoned. There are 8 figures and 1 table. The English-language reference is: L. E. Grey, Electronic. Eng. 26, 402, 1954. ✓

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. I. M. Gubkina (Moscow Institute of Petrochemical and Gas Industry imeni I. M. Gubkin)

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Investigation of aqueous alundum...

S/069/62/024/005/004/010  
B106/B186

SUBMITTED: April 22, 1961

J

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TIMOKHIN, I.M.; FINKEL'SHTEYN, M.Z.

Methods of analysis of carboxymethylcellulose ethers. Zhur.prikl.khim.  
36 no.2:415-423 F '63. (MIRA 16:3)

(Cellulose)

DKHARTYAL, Ch.D.; MALININA, A.I.; TIMOKHIN, I.M.; FINKEL'SHTEYN, M.Z.

Effect of some factors on the reaction rate of carboxymethylation of cellulose and the homogeneity of carboxymethylcellulose. Zhur. prikl. khim. 36 no.11:2513-2517 N '63.

(MIRA 17:1)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni I.M. Gubkina.



DKHARIYAL, Ch.D.; ZHIGACH, K.F.; MALININA, A.I.; TIMOKHIN, I.M.;  
FINKEL'SHTEYN, M.Z.

Factors influencing the effectiveness of cellulose  
carboxymethylation. Zhur.prikl.khim. 37 no. 5:1099-1105  
My '64. (MIRA 17:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy  
promyshlennosti imeni I.M.Gubkina.

ACC NR: AP6030903 (A,N) SOURCE CODE: UR/0080/66/039/008/1849/1852

AUTHOR: Dkhariyal, Ch. D.; Malinina, A. I.; Timokhin, I. M.; Finkel'shteyn, M. Z.

ORG: Moscow Institute of the Petrochemical and Gas Industry imeni I. M. Gubkin (Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti)

24  
B

TITLE: Effect of the conditions of preparation of carboxymethylcellulose (CMC) on the degree of its polymerization

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 8, 1966, 1849-1852

TOPIC TAGS: cellulose, polymer degradation, polymerization degree

ABSTRACT: A study of the effect of the mercerization temperature showed that as the latter rises, the degree of polymerization of carboxymethylcellulose (CMC) diminishes. This is attributed to the high rate of degradation of cellulose during its mercerization at higher temperatures. In the process of carboxymethylation of cellulose, a rise in the reaction temperature to 80°C reduces the degradation of the CMC obtained. At 95°, however, the degradation is more pronounced. The degree of polymerization of CMC decreases very appreciably with rising content of free NaOH in the reaction mixture. It does not change with changing cellulose/ClCH<sub>2</sub>COOH ratio and changes only slightly with the water/cellulose ratio. Ultrasonic waves (19.45 kc) had no effect on the polymerization. It is shown that the degree of polymerization of CMC can be determined in unpurified preparations, since the impurities they contain do not have any

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UDC: 547.458.81+541.64

L 08460-67

ACC NR: AP6030903

appreciable effect on the concentration of the low-molecular electrolyte in a 1.5 N NaOH solution. Orig. art. has: 8 tables.

SUB CODE: 07/ SUBM DATE: 06Jul64/ ORIG REF: 002/ OTH REF: 001

FINKEL'SHTEYN, N.A.; BERGMAN, A.G.; NAGORNYI, G.I.

Interaction between potassium, calcium, and barium sulfates.  
Zhur.neorg.khim. 10 no.8:1890--1894 Ag '65.

Interaction between fused chlorides and sulfates of potassium,  
calcium, and barium. Ibid.:1895--1900.

(MIRA 1961)

1. Irkutskiy gosudarstvennyy universitet i Rostovskiy-na-Donu  
institut sel'skokhozyaystvennogo mashinostroyeniya. Submitted  
July 4, 1964.

54

FINKELSTEYN, N.B.

Journal of the Iron and Steel Institute  
Vol. 176  
Apr. 1954  
Metallography

2  
On the Thermodynamics of Simple Carbides in Steel. N. B. Finkelstein and N. B. Finkelstein. (Doklady Akademii Nauk S.S.S.R., 1953, 88, 877-879; National Science Foundation, Translation 77, Aug., 1953). Thermodynamic formulae are derived for calculating the amount and composition of the carbide phase from the composition of the steel and its heat-treatment. -v. o.

USSR/Microbiology - General Microbiology

F-1

Abs Jour : Ref Zhur - Biol., No 10, 1958, 43094

Author : Zarnukhovskaya, A.N., Shvartsman, L.A., Finkelshteyn, N.R., Kasyanova, L.K.

Inst : -

Title : Biological Properties of B. Coli When Cultivated on a Liquid Medium with Aeration.

Orig Pub : Tr. Mosk. n.-i. in-ta vaktsin i syvorotok, 1956, 8, 191-201.

Abstract : No abstract.

Card 1/1

FUNKEL'SHTSEYN, F.B.

Remote control of the UPDU -57 electric-drainage equipment. Transp.  
i khran. nefti no.5:14-18 '63. (MIRA 17:3)

1. Kuybyshevskoye nefteprovodnoye upravleniye.

68-58-3-2/22

AUTHORS: Finkel'shteyn, P.K. and Prudenko, V.A.

TITLE: ~~A New method of~~ Determining the Caking Index and the Degree of Metamorphism (Rank) of Coals (Novyy metod opredeleniya pokazateley spekeyemosti i stepeni metamorfizma ugley)

PERIODICAL: Koks i Khimiya, 1958, Nr 3, pp 6 -12 (USSR).

ABSTRACT: A method of rapid and accurate determination of the yield of carbonisation products using a lg sample of coal was developed. The description of the apparatus (Fig.1) and experimental procedure are given. On the assumption that the amount of tar evolved during semi-coking is proportional or even equal to the amount of liquid products responsible for coal plasticity and the amount of oxygen containing products of the smallest molecular weight (pyrogenic H<sub>2</sub>O and CO<sub>2</sub> and CO) is proportional to that part of the coal substance which is unstable and does not participate in the formation of plastic mass, two new indices characterising the coking properties of coal are proposed. Plasticity index:

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68-58-3-2/22

A New Method of Determining the Caking Index and the Degree of  
Metamorphism (Rank) of Coals

$$\frac{\text{tar \% (100 - ash)}}{\left[ \text{H}_2\text{O \%} + (\text{CO}_2 + \text{CO})\% \right]} \cdot 100 \quad \text{and fluidity index} =$$

$$\frac{\text{Plasticity index} \cdot 100}{\text{Yield of semicoke \%}}$$

As the analysis of the gas evolved from a 1g sample of coal during semi-coking for CO and CO<sub>2</sub> is impossible, a relationship between the gas density and its CO + CO<sub>2</sub> content for various volatile matter contents of coals was established (Fig.2), on the basis of which the formula for plasticity index takes the following form:

$$\text{Plasticity index} = \frac{\text{tar \% (100 - ash)}}{\left\{ \text{pyrogenic H}_2\text{O \%} + [v(d - 0.6) \cdot 0.15] \% \right\} - 100}$$

where v - volatile matter content of coal.

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68-58-3-2/22

A New Method of Determining the Caking Index and the Degree of  
Metamorphism (Rank) of Coals

The plasticity coefficient was correlated with the thickness of the plastic layer for the majority of coals (Table 1). A new index of the degree of metamorphism of coals (rank) was also proposed - this is the ratio of the sum of pyrogenic water and carbon monoxide and dioxide obtained on coking to 555 °C expressed in weight percent to the ash-free coal substance. It is claimed that this index of rank is more sensitive than that based on the volatile matter content of coal (Tables 2 and 3). There are 3 tables, 2 figures and 6 Soviet references.

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskiy institut  
(Dnepropetrovsk Institute of Chemical Technology)

Card 3/3

FINKEL'SHTEYN, P. K. Cand Tech Sci -- (diss) <sup>th</sup> "A ~~new~~ method of determining the indexes of ~~the~~ coking capacity and degree of metamorphism of coal;"

Dnepropetrovsk, 1959. 23 pp with graphs (Min of Higher Education USSR.

Dnepropetrovsk Chem <sup>1959</sup> Technological Inst im F. E. Dzerzhinskiy), 100 copies

(KL, 45-59, 147)

AUTHOR: Finkel'shteyn, P.K. SOV/68-58-2-3/20

TITLE: A Laboratory Method for Forecasting the Size of Coke  
(Laboratornyy metod prognoza krupnosti koksa)

PERIODICAL: Koks i Khimiya, 1959, Nr 2, pp 10 - 13 (USSR)

ABSTRACT: On the assumption that the formation of macrocracks governing the size distribution of coke depends on the fluidity of plastic layer and the yield of tar on semi-coking (providing that other conditions are constant), the author proposes a formula for an index  $K$ , characterising the size distribution of coke:

$$K = \frac{1}{T \cdot C_M}$$

where  $T$  - fluidity index of plastic layer,  $C_M$  - yield of tar on semi-coking in % on dry coal.  $T$  and  $C_M$  are determined by the method proposed by the author and Prudenko (Koks i Khimiya, 1958, Nr 3). The coefficient  $K$  determined for a number of coals is given in Table 1. A comparison of determined and calculated (from values for individual coals) coefficient  $K$  for a number of blends

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SOV/68-58-2-3/20  
A Laboratory Method for Forecasting the Size of Coke

prepared in the laboratory (Table 2) indicated that it is an additive property. The coefficient was determined for a number of blends used in various coking works and compared with the size distribution of industrial cokes produced from these blends (Table 3).. A straight line relationship between the percent of the above 60 mm fraction of coke and K index of the corresponding blend is claimed to exist. It is proposed to use the above relationship for the forecasting of the size distribution of coke. The actual yield of + 60 mm fraction did not differ more than 3% from the forecast yield with the exception of two cases when the difference amounted to 5 and 6%. There are 3 tables.

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskii institut  
(Dnepropetrovsk Institute of Chemical Technology)

Card2/2

DAL', V.I.; FINKEL'SHTEYN, P.K.; GOLEND, V.F.; POPOV, R.I.; PASHKEVICH, .  
A.Z.; KONRADI, V.Ya.

Increasing the size of metallurgical coke by a new method of select-  
ing coal charges. Koks i khim. no.1:22-27 '60. (MIRA 13:7)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut (for Dal',  
Finkel'shteyn & Golenda). 2. Dnepropetrovskiy koksokhimicheskiy  
zavod (for Popov, Pashkevich and Konradi).  
(Dnepropetrovsk--Coke)

FINKEL'SHTEYN, P.K.

Parameter of a uniform classification of solid fuels. Koks i khim.  
no.3:3-8 '63. (MIRA 16:3)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.  
(Fuel-Classification)

FINKEL'SHTEYN, P.K.; GOLEND, V.F.; STARUSHKINA, N.A.

New classification indices for Donets Basin coals. Koks i khim.  
no.9:6-16 '63. (MIRA 16:9)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.  
(Donets Basin--Coal--Classification)



FINKEL'SHTEYN, P.K.

Analyzing the indicators of coking properties by the yield of low-temperature carbonization products. Koks i khim. no.10:11-14 '62.  
(MIRA 16:9)

1. Dnepropetrovskiy khimiko-tehnologicheskiy institut.  
(Coal—Carbonization)

LITVIN, I.S., inzh.; BLANK, I.I., inzh.; KORNILOV, B.B., inzh.; FINKEL'-  
SHTEYN, R.I., inzh.

Precast reinforced concrete standardized foundations for turbogene-  
rators with 50 to 300 thousand kw. power ratings. Energ. stroi. no.  
32:7-15 '62. (MIRA 16:5)

1. Leningradskoye otdeleniye Vsesoyuznogo gosudarstvennogo proyekt-  
nogo instituta stroitel'stva elektrostantsiy.

S/124/63/000/002/025/052  
D234/D308

AUTHOR: Finkel'shteyn, R.M.

TITLE: The stressed state of a circular cylindrical shell having initial deviations from regular form

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 2, 1963, 9, abstract 2V56 (In collection: Issled. po uprugnosti i plastichnosti. I. L., Leningrad. un-t, 1961, 169-174)

TEXT: The author estimates the error in the determination of additional stresses in a cylindrical shell having initial deviations coinciding with the form of loss of stability. It is shown that the initial system of equations, on the basis of which the above solution is obtained, is applicable only if the rotations and elongations of elements of the shell are of the same order and are small compared with 1. Then the errors in the expressions for additional forces and moments do not exceed the standards admissible in engineering design. An estimation of the permissible initial deviation

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The stressed state . . .

S/124/63/000/002/025/052  
D234/D308

is obtained on condition that the elongations are of the same order as the square of the rotations, and that the system of equations improved for this purpose has the same error as before. The initial deviation in this case can be assumed to be several times larger than the recommended standard.

[ Abstracter's note: Complete translation ]

Card 2/2

S/753/61/000/001/005/007

AUTHOR: Finkel'shteyn, R.M.

TITLE: On the stress distribution in a circular cylindrical shell having an initial deviation from its regular shape.

SOURCE: Leningrad. Universitet. Matematiko-mekhanicheskiy fakul'tet. Issledovaniya po uprugosti i plastichnosti. no.1. 1960, 169-182.

TEXT: The paper provides theoretical means for the calculation of the supplementary stress distribution introduced by the so-called initial deviations, which are defined as those normal displacements which would have to be imparted to a geometrically ideal, regular, shell to make it coincide with an actual shell. The great variety of such deviations precludes a general solution. However, the upper limit of the magnitude of such stresses can be determined fairly easily. This upper limit coincides with those deviations that are consistent with the shape of the shell when buckling. The subject paper constitutes an evaluation of the errors incurred in the respective solutions provided recently by M. M. Genne and V. F. Segal'. The Genne-Segal' equations for the forces and moments arising in (a) a smooth, and (b) a ribbed circular cylindrical shell with small initial deviations are reproduced, together with the system of differential equations from which they are derived.

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Following the Genne-Segal' assumptions that the rotations of the shell elements occurring in the process of deformation will be small relative to unity and that the order of smallness of the elongations and the rotations is the same, it is determined that the above-cited differential equations can be applied only when the rotations are equivalent in magnitude to the deformations. Thereupon error equations for the two Genne-Segal' equations are established, and the actual error magnitudes are determined for the initial deviations specified by Yu. A. Shimanskiy (In "Stroitel'naya mekhanika podvodnykh lodok," The structural mechanics of submarine vessels, Sudpromgiz, 1948). Using the smallness criterion for the supplementary forces as expressed in terms of the initial deviations, the P. F. Papkovich coefficient, and the number of waves determined by the buckling mode of the shell at large deflections, the magnitude of the permissible initial deviations is roughly estimated, and it is found that the initial deviation must be of the order of the thickness of the shell skin for a smooth cylinder and must be approximately 1/60 of the radius of the cross-section of a ribbed cylinder and, hence, about 6.5 times greater than the value specified in Shimanskiy's textbook. There are no figures or tables; there are 3 Russian-language Soviet references, including V. V. Novozhilov's textbook "Teoriya gibkikh obolochek" (Theory of flexible shells), Sudpromgiz, 1951, and "Osnovy nelineynyy teorii uprugosti" (Fundamentals of the nonlinear theory of elasticity), Gostekhizdat, 1948, and the author's above-cited textbook.

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On the stress distribution in a circular cylindrical ... S/753/61/000/001/005/007

ASSOCIATION: Kafedra teorii uprugosti matematiko-mekhanicheskogo fakul'teta  
Leningradskogo gosudarstvennogo universiteta im. A. A. Zhdanova  
(Department of the Theory of Elasticity, School of Mathematics  
and Mechanics, Leningrad State University imeni A. A. Zhdanov).

Card 3/3

FINKEL'SHTEYN, R.M. (Leningrad)

On a problem in the statics of thin cylindrical plates. Izv.AN  
SSSR.Otd.tekh.nauk no.5:136-140 My '56. (MLRA 9:8)  
(Elastic plates and shells)



FINKEL'SHTEYN, R.M. (Leningrad)

Rigidity of thin-walled circular cylindrical shells. Izv. AN SSSR  
Otd. tekhn. nauk no. 7:37-42 J1 '56. (MIRA 9:9)  
(Elastic plates and shells)

FINKEL'SHTEYN, R.M.

Stability of a thin spherical shell. Issl. po uprug.i plast.  
no.1:36-45 '61. (MIRA 15:2)

(Elastic plates and shells)

FINKEL'SHTEYN, R.M.

Stressed state of a circular cylindrical shell having initial  
deviations from the regular shape. Issl.pu uprug.i plast.  
no.1:169-174 '61. (MIRA 15:2)  
(Elastic plates and shells)

NOVOZHILOV, Valentin Valentinovich; FINKEL'SHTEYN, R.M., kand. tekhn. nauk, retsenzent; CHERNYKH, K.F., nauchnyy red.; KLIORINA, T.A., red.; FRUMKIN, P.S., tekhn. red.

[Theory of thin shells] Teoriia tonkikh obolochek. 2., dop. izd. Leningrad, Sudpromgiz, 1962. 430 p. (MIRA 15:6)  
(Elastic plates and shells)

IVANYUTA, E.I.; FINKEL'SHTEYN, R.M.

Determining the frequencies of free vibrations of a cylindrical shell with elliptic cross section. Issl.pu uprug.i plast.  
no.1:46-51 '61. (MIRA 15:2)  
(Elastic plates and shells--Vibration)

IVANYUTA, E. I. (Leningrad); FINKEL'SHTEYN, R. M. (Leningrad)

Using a variational method in solving certain problems in the  
theory of shells. Prikl. mekh. 9 no.1:42-51 '63.  
(MIRA 16:4)

1. Leningradskiy gosudarstvennyy universitet.

(Elastic plates and shells)

IVAN YUTA, E.I.; FINKEL'SHTEYN, R.M.

Determining the frequencies of the free vibrations of cylindrical shells. Issl. po uprug. i plast. no.2:81-89 '63. (MIRA 16:8)  
(Elastic plates and shells→Vibration)

IVANYUTA, E.I.; FINKEL'SHTEYN, R.M.

Axisymmetric vibrations of cylindrical shells. Issl. po uprug.  
i plast. no.2:90-104 '63. (MIRA 16:8)  
(Elastic plates and shells--Vibration)



IVANYUTA, E.I.; FINKEL'SHTEYN, R.M.

Effect of tangential inertial forces on the frequency of free  
vibrations of a thin cylindrical shell. Issl. po uprug. i plast.  
no.2:212-215 '63. (MIRA 16:8)  
(Elastic plates and shells--Vibration)

KOZHAKHMETOV, K.K.; FINKEL'SHTEYN, R.M.

A thermoelasticity problem for a thin cylindrical shell  
and a plate. Issl. po uprug. i plast. no.3:75-87 '64.  
(MIRA 17:6)

FINKEL'SHTEYN, S.A.

AUTHOR: Finkel'shteyn, S.A., Engineer, 118-58-5-4/18

TITLE: Lumber Transport Roads of Reinforced Concrete Plates (Lesovoznyye dorogi iz zhelezobetonnykh plit)

PERIODICAL: Mekhanizatsiya Trudoyemkikh i Tyazhlykh Rabot, Nr 5, 1958, pp 14-15 (USSR)

ABSTRACT: The haulage of lumber to storage places is accomplished by automotive means over corduroy roads. Recently many of these roads have been built, but have proved to be of little use even for such vehicles as ZIL-150 and ZIL-151. They are also expensive and need frequent repair. The author mentions the Shiglino corduroy road of the Rabayevo lespromkhoz, Cherepovetsles kombinat (Cherepovetsles Combine) as examples. He then points to the good experience with roads of reinforced concrete plates. The average cost of 1 km was 183,000 rubles which included 136,000 rubles for the manufacture of the plates. As the plates can serve 3 years and can be moved within this period at least 6 times, the cost of 1 km of miter will be twice as low as that of corduroy roads. The cost of plate manufacture can also be considerably reduced

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Lumber Transport Roads of Reinforced Concrete Plates 118-58-5-4/18

thus lowering costs still further. There are 2 photos.

AVAILABLE: Library of Congress

Card 2/2 1. Reinforced concrete-Applications 2. Roads-Precast concrete  
3. Wood-Processing