SOV/137-58-9-18573

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 56 (USSR)

AUTHORS: Medzhibozhskiy, M.Ya., Sokolov, I.A., Shestakov, N.A., Vasil'yev, A.N.

TITLE: Compressed Air Blowing of Liquid Metal in Heavy-duty Open-hearth Furnaces (Vduvaniye kompressornogo vozdukha v zhidkuyu vannu bol'shegruznykh martenovskikh pechey)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Chernaya metallurgiya, 1958, Nr 2, pp 34-47

ABSTRACT: A report on the results of 40 experimental smeltings carried out in the 390-ton open-hearth furnaces of the KMK (Kuznetsk Metallurgical Kombinat). Compressed air at a pressure of 3.5-5.0 atm gage was introduced into the hearth at a rate of 2500-2800 m^3/hr by means of two water-cooled tuyeres installed in the crown of the furnace. The blowing commenced 1-1.5 hrs prior to melting and terminated at the beginning or the mid-point of the pure "boil" period. In the course of the experimental smeltings, the rate of decarbonization became considerably faster, the dephosphorization process more efficient, and the content of FeO in the slag increased by 6% at the end of the

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Compressed Air Blowing of Liquid Metal in Heavy-duty Open-hearth (cont.)

melting stage. Instead of 1.0-1.5°C/min, as in the case of a standard smelting process, the temperature of the metal increased at a rate of 2.0-2.5°C/min; this made it possible to reduce the consumption of conventional fuel by an average of 7 kg per ton of ingots. In the process the degree of utilization of O_2 contained in the compressed air by the molten metal is increased by a factor of 4-8 owing to the increased supply O_2 from the atmosphere of the furnace. Compressed-air blowing at a pressure of 5.5 atm gage is equivalent in efficiency to blowing with pure O_2. The duration of a 390-ton melting process was reduced by 38 minutes on the average. The amount of dust being evolved during blowing does not exceed 1 g/m^3. No noticeable wear was observed in the furnace lining. Overoxidation of metal in the course of the blowing process was absent; at the same time the content of N amounted to only 0.0033%. The finished metal contains H, O, N, and slag inclusions in quantities analogous to those contained in standard metals. Mechanical properties of the steel were not impaired.

V.G.

1. Open hearth furnace--Performance 2. Metals (Liquid)--Processing 3. Compressed air--Applications

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SOV/130-58-12-7/21

AUTHORS: Sokolov, I.A., Vasil'yev, A.N. and Nikulin, N.G., Engineers

TITLE: Deoxidation of Low Alloy Steel Entirely in the Ladle (Raskisleniye nizkolegirovannoy stali polnost'yu v kovshe)

PERIODICAL: Metallurg, Nr 12, 1958, pp 14 - 17 (USSR)

ABSTRACT: The authors describe 43 experimental heats of types 09G2 and 09G2D low-alloy steels made to investigate the possibility of carrying out all the deoxidation in the ladle. The deoxidisers in lumps up to 50 mm across were added from bunkers; first silicomanganese (20-25 kg/tonne steel) and ferromanganese (2-2.5 kg/tonne), then ferrotitanium (1.2-1.5 kg/tonne); finally aluminium (0.9-1 kg/tonne) was added manually. The additions were made smoothly and were completed before slagging started. In a few heats some metallic manganese was added. The metal was teemed via a tundish. Samples were taken during melting and pouring. The authors tabulate (Table 1) and discuss average melting conditions, compositions of samples and metal temperatures for the experimental and for 14 ordinary heats. The duration of the former was 8 hr 40 min and of the latter

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Deoxidation of Low Alloy Steel Entirely in the Ladle

9 hours 24 min. Mechanical tests on samples taken from rolled products of the experimental and ordinary heats show that the properties are practically the same and superior to standard specifications (Table 2). The authors give comparative figures for consumptions of deoxidizers and the resulting cost changes per tonne of steel (Table 3). They quote a figure of 45.55 roubles conversion cost saving per tonne. But an editorial note points out that most of the saving is due to the substitution of ferro-manganese for metallic manganese, which is not related to the method by which deoxidation is effected, and that the real savings which can be credited to deoxidation in the ladle are the reduction in heat time and silicon and

Deoxidation of Low Alloy Steel Entirely in the Ladle SOV/130-58-12-7/21

manganese losses. The ladle deoxidation method was adopted at the Kuznetskiy metallurgical combine at the end of 1957.
There are 3 tables

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat (Kuznetsk metallurgical combine)

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24(8) PHASE I BOOK EXPLOITATION SOV/2117

Soveshchaniya po eksperimental'noy tekhnike i metodam vysokotemperaturnykh issledovaniy, 1956

Eksperimental'naya tekhnika i metody issledovaniy pri vysokikh temperaturakh; trudy soveshchaniya (Experimental Techniques and Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures) Moscow, AN SSSR, 1959. 789 p. (Series: Akademiya nauk SSSR. Institut metallurgii. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: A.L. Bankvitser.

PURPOSE: This book is intended for metallurgists and metallurgical engineers.

COVERAGE: This collection of scientific papers is divided into six parts: 1) thermodynamic activity and kinetics of high-temperature processes 2) constitution diagram studies 3) physical properties of liquid metals and slags 4) new analytical methods and production of pure metals 5) pyrometry, and 6) general questions. For more specific coverage, see Table of Contents.

Otlivanov, S.G., and I.A. Sokolov. Industrial Application of Thermocouples for Controlling the Temperature of Liquid Steel 604

The article describes the practice of the Kuznetsk Metallurgical Plant in Stalinsk of using submerged platinum-platinorhodium thermocouples for controlling the temperature of liquid steel. Optimum limits of temperature were established for various periods during the final melting. Some advantages of this method of temperature control are: fewer heats tapped at too high or too low a temperature, threefold reduction in electric-furnace stainless-steel ingots scrapped because of surface defects, improved quality of macrostructure, and longer life of furnace hearths and roofs. Some improvements must be made, however, to extend the life of the thermocouples.

Svede-Shvets, K.I., and M.V. Pridantsev. Thermocouple for Short-time Measurement of Temperatures Reaching 2300° C 619

A new thermocouple has been developed for short-time measurements of liquid-steel temperatures. The positive thermoelectrode is tungsten, and the negative a molybdenum alloy containing 0.5 percent aluminum. The thermocouple can measure temperatures within a range of 100-2300° C, developing a maximum thermoelectromotive force of the order of 20 mv.

I.A. Sokolov

S/133/60/000/008/014/017/XX
A054/A029

AUTHORS: Morokov, P. K., Sokolov, I. A., Kochnev, S. P., Kurpyayev, I. M.

TITLE: Remote Control of Steel Pouring From Two-Stopper Ladles

PERIODICAL: Stal', 1960, No. 8, pp. 704-708

TEXT: In 1957, simplified hydraulic equipment was designed at the Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical Combine) (with the cooperation of L. S. Klimasenko, I. S. Lyulenkov, M. D. Zaslavskiy, I. I. Chuvikovskiy, S. P. Kochnev, P. K. Morokov and I. M. Kurpyayev; No. of Authors Certificate: 125011) for remote control of the stoppers of 200-t ladles, planned by Stal'proyekt. Remote control in this operation eliminates the very cumbersome manual work in the proximity of the furnace, reduces the number of workers required and stabilizes the conditions of pouring. The hydraulic equipment is placed in an oil container with a rectangular bottom measuring 670 x 760 mm and a capacity of 120 l. The cover consists of two parts. The part which is welded to the container accomodates the electromotor, the oil pump and the oil filter, while in the detachable part of the cover the valve-system, magnetic devices and control boxes are mounted. The hydraulic equipment is placed on the right-hand side of the control cabin of the

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Remote Control of Steel Pouring From Two-Stopper Ladles

crane, while on the other side of the cabin, on a level with the charging platform two cylinders with flexible pipes and the control panel are mounted. By activating the appropriate magnet, oil is fed by the pump through the valve-system into the upper chamber of the cylinder. The excess oil fed in by the pump passes through a release valve into the oil container under a pressure which is about 2 atm higher than the pressure prevailing in the working area of the cylinder. This constant differential pressure in the pump and in the cylinder ensures the stability of oil flow through the throttle and, consequently, at the same time also the stability of the cylinder speed during lifting and lowering the stoppers of the ladle. As the piston is stationary, the cylinder rises when the pressure is increased, thus lifting the stopper. The stopper is lowered by activating the corresponding elements of the system having a reverse function of those opening the stopper. The electric control system consists of a linear contactor, two normally open main contactors and two normally open block-contactors, timing, zero and accelerating relays, contactors and push buttons. In the remote control system it is possible to pour a metal stream reduced to one third of its volume in the first few seconds of pouring and the transition to full-jet pouring proceeds very smoothly. This reduces the impact at the bottom of the ingot mold considerably, which improves the

S/133/60/000/008/014/017/XX
A054/A029

Remote Control of Steel Pouring From Two-Stopper Ladles

quality of the steel. About 250 test pourings (with rail steel and Ст.3кп = St.3kp type steel) proved that the quantity of cinder in the lower part of the casting decreases and also the amount of incrustations in the macrostructure of the rolled stock made from the lower part of the castings is smaller. Further advantages of the new system are: the stoppers open and close at a uniform speed regardless of the quantity of metal in the ladle; during the interval the ingot mold is filled with the liquid metal, the electromotor can be switched off; the system can be applied in any pouring method; the hydraulic system can be adjusted for the case where the stopper is heavier than the metal stream and also for the reverse case (i. e., the stopper is lighter than the weight of the metal stream). The construction and the operation of the hydraulic equipment and of the electric control system and the tests with the steel poured according to this method are described. There are 4 figures and 1 table.

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical Combine)

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KLIMASENKO, L.S.; SOKOLOV, I.A.; BOTNEV, Ye.Ya.

Steel pouring from two-stopper ladles with remote control of the stoppers. Metallurg 7 no.4:21-23 Ap '62. (MIRA 15:3)

(Open-hearth furnaces--Equipment and supplies)
(Remote control)

L 04314-67 EWP(k)/EWT(m)/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AP6018388 (N) SOURCE CODE: UR/0133/66/000/006/0530/0532

AUTHORS: Aleshin, V. A.; Kolmogorov, V. L.; Ural'skiy, V. I.; Sokolov, I. A.; Moiseyev, G. P.; Krovsikov, R. P.; Fotov, A. A.; Pavlov, A. I.; Khoroshikh, Yu. G.

ORG: Pervoural'skiy New Pipe Plant (Pervoural'skiy novotrubnyy zavod); Ural Scientific Research Institute for Ferrous Metals (Ural'skiy n.-i. institut chernykh metallov)

45
B

TITLE: Shortcut in the production cycle of cold-rolled pipes

SOURCE: Stal', no. 6, 1966, 530-532

TOPIC TAGS: metal tube, metal drawing, metal rolling, steel / 20 steel, 45 steel, 30KhGSA steel, OKh18N10T steel

ABSTRACT: An investigation of plasticity after cold rolling of the more widely used steel pipes (20, 30KhGSA, 45, OKh18N10T) was carried out. The plasticity of the metal (ψ) was determined as a function of the elongation coefficients S_x/S_o and diamter ratio d_x/d_o. The experimental results are shown graphically (see Fig. 1). The maximum residual stresses were calculated after H. Anderson and G. Fahlman (Journal of the Institute of Metals, 1925, v. 34, No. 3, p. 271—275). It was found that repeated drawing after cold rolling without employing an intermediate thermal treatment yielded pipes with satisfactory mechanical properties. The combined drawing and rolling process permits a shortening of the usual

UDC: 621.774.353.37

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ACC NR: AP6018388

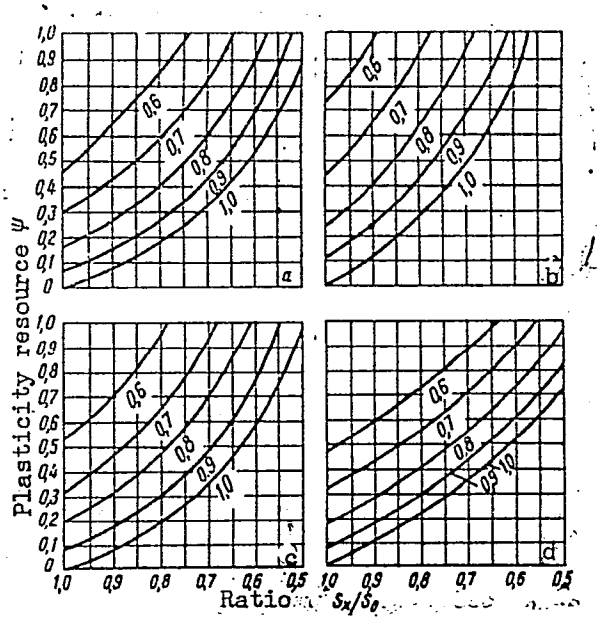

Fig. 1. Use of the plasticity ψ during short-set drawing of pipes of steels 20 (a), 45 (b), 30KhGSA (c), and Kh18N10T (d); numbers on the curves correspond to the change in pipe diameter d_1/d_0 as a result of drawing. S_x/S_0 = ratio of elongation coefficients.

production cycle, resulting in considerable sa ings in production costs. Orig. art. has: 1 table, 2 graphs, and 1 equation.

SUB CODE: 11/ SUBM DATE: none/ OTH REF: 001

Card 2/2

KARAVAYEVA, N.A.; SOKOLOV, I.A.; SOKOLOVA, T.A.; TARGUL'YAN, V.O.

Characteristics of soil formation in tundra-taiga permafrost regions in Eastern Siberia and the Far East. Pochvovedenie no. 7: 26-37 Jl '65 (MIRA 19:1)

1. Pochvennyy institut imeni V.V. Dokuchayeva, Moskva, i Institut geografii AN SSSR. Submitted March 10, 1965.

SOKOLOV, I.A.; BELOUSOVA, N.I.

Organic matter in the soils of Kamchatka and some problems of the illuvial-humus soil formation. Pochvovedenie no.10:25-37 O '64.
(MIRA 17:11)

1. Pochvennyy institut imeni Dokuchayeva AN SSSR, Moskva.

BALASHOV, V.I.; ARGUNOV, R.S.; SOKOLOV, I.A.; ROGOZHIN, V.A.; USANOVA, A.V.

Outbreak of food toxicoinfection caused by two types of Salmonella. Zhur.mikrobiol., epid.i immun. 32 no.12:114 D '61. (MIRA 15:11)

(FOOD POISONING) (SALMONELLA)

SOKOLOV, I.A.

Soils of meadow steppes in eastern Transbaikalia [with summary in English]. Pochvovedenie no.11:52-59 N '58. (MIRA 11:12)

1. Pochvennyy institut imeni V.V.Dokuchayeva AN SSSR.
(Transbaikalia--Soils)

IVANOVA, Ye.N.; ROZOV, N.N.; YEGOROVA, A.A.; [illegible]; NOSIN, V.A.; UFIMTSEVA, K.A.; Prinimali uchastiye: IVANOVA, Ye.N.; ROZOVYY, N.N.; BUDINA, L.F.; VISHNEVSKAYA, I.V.; GERASIMOV, I.P.; KARAVAYEVA, N.A.; KOSHELEVA, I.T.; NAUMOV, Ye.M.; SEMINA, Ye.V.; SOKOLOV, I.A.; SOKOLOVA, T.A.; TARGUL'YAN, V.O.

New materials on general geography and soil classification of the polar and boreal belts of Siberia. Pochvovedenie no.11:7-23 N '61. (MIRA 14:12)

(Siberia, Northern--Soils--Classification)
(Siberia, Northern--Geography)

SOKOLOV, I.A.

Vertical zonality of mountain soils in Transbaikalia. Izv. AN SSSR. Ser. geog. no.5:82-88 S-O '64. (MIRA 17:11)

1. Pochvennyy institut im. V.V. Dokuchayeva, Moskva.

SOKOLOV, I.A.; SOKOLOVA, T.A.

Zonal types of soils in regions of perennial frost. Pochvovedenie no.10:23-32 O '62. (MIRA 15:11)

1. Pochvennyy institut im. V.V.Dokuchayeva.
(Transbaikalia--Frozen ground)

BADMAYEV, K.N.; ZEN'KOVICH, S.G.; SOKOLOV, I.A.

Scintillation gamma-encephalometer for the diagnosis of brain tumors. Med. rad. 5 no.4:57-64 Ap '60. (MIRA 13:12)
(BRAIN--TUMORS) (RADIOMETER)

SOKOLOV, Igor' Aleksandrovich; SHULEYKIN, P.A., red.; NAZAROVA, A.S., tekhn. red.

[Under the new conditions] V novykh usloviiakh. Moskva, Izd-vo "Znanie," 1962. 45 p. (Narodnyi universitet kul'tury. Sel'khozizistvennyi fakul'tet, no.4) (MIRA 15:5)
(Agriculture)

SOKOLOV, Igor' Aleksandrovich; SHULEYKIN, P.A., red.; RAKITIN, I.T., tekhn. red.

[Without manual labor]Bez ruchnogo truda. Moskva, Izd-vo "Znanie," 1963. 48 p. (Narodnyi universitet kul'tury: Sel'skokhoziaistvennyi fakul'tet, no.2) (MIRA 16:1)
(Farm mechanization)

SOKOLOV, I.A.

PHASE I BOOK EXPLOITATION SOV/5176

Kushelev, Viktor Viktorovich, and Igor' Aleksandrovich Sokolov

Korpusa sudov iz plastmass (Ship Hulls From Plastics) Leningrad, Sudpromgiz, 1960. 111 p. 4,300 copies printed.

Scientific Ed.: A.A. Brant; Ed.: A.I. Kuskova; Tech. Ed.: R.K. Tsal.

PURPOSE: This book is intended for engineers and technicians of the shipbuilding industry who are engaged in the design and construction of ships from plastic materials. It may also be used by students at institutes and tekhnikums.

COVERAGE: The book deals with the use of reinforced plastic materials in the production of ship hulls. Particular attention is given to structural plastic materials and the technology of hull construction. Some data are provided on the recent production of plastic materials. Chapter I was written jointly by the authors; V.V. Kushelev wrote Chapters II, V, VI, and subsection 16 [in Ch. IV]; I.A. Sokolov wrote Chapters III and IV. The authors thank B.P. Sokolov for his advice. There are 25 references: 13 Soviet, 6 English, 4 German, 1 French, and 1 Danish.

Card ~~1/4~~

GALITSKIY, Boris Mikhaylovich; SEMIBRATOV, Vsevolod Nikolayevich; SMIRNOV, Boris Konstantinovich; RUSAKOV, A.N., retsenzent; SOKOLOV, I.A., red.

[Regulations for the performance of repair and construction work; norms and estimates] Pravila proizvodstva remontno-stroitel'nykh rabot, normy i rastsenki. Izd.3., ispr. i dop. Kiev, Budivel'nyk, 1965. 718 p. (MIRA 18:4)

SOKOLOV, I.A.; KARAYEVA, Z.S.

Migration of humus and some elements in the profile of vulcanic forest soils in Kamchatka. Pochvovedenie no.5:12-21 My '65.
(MIRA 18:5)

1. Pochvennyy institut imeni Dokuchayeva, Moskva.

USHAKOV, I.A.; ALIKIN, Yu.K.; ALIMOV, O.D.; MALIKOV, D.N.;
SOKOLOV, I.A.; NEYANIN, S.D.

Way of erecting supports in upraise shafts. Ugol' 38
no.12:53-54 '63. (MIRA 17:5)

SOKOLOV, I.A., kapitan-leytenant

Guarantee of future feats. Mor. sbor. 48 no.2:18-21 F '65. (MIRA 18:11)

GINZBURG, Mikhail Borisovich, starshiy nauchnyy sotrudnik, kand.tekhn. nauk; MAL'TSOV, Konstantin Aleksandrovich, starshiy nauchnyy sotrudnik, kand.tekhn.nauk; SOKOLOV, Igor' Borisovich, mladshiy nauchnyy sotrudnik; GIRSHKAN, I.A., red.

[Determining the intensity of back-pressure in concreting hydraulic structures] Opredelenie velichiny protivodavleniia v betonnoi kladke gidrotekhnicheskikh sooruzhenii. Moskva, Gos. energ.izd-vo, 1959. 66 p. (MIRA 13:3)

1. Rukovoditel' laboratorii inzhenernykh konstruktsiy Vsesoyuznogo nauchno-issledovatel'skogo instituta gidrotekhniki im.B.Ye.Vedeneyeva (for Mal'tsov).
(Hydraulic engineering)

MAL'TSOV, K.A.; SOKOLOV, I.B.

Testing pressure in concretes to be used for hydraulic structures. Nauch.dokl.vys.shkoly; stroi. no.1:233-239 '59. (MIRA 12:10)

1. Rekomendovana Vsesoyuznym nauchno-issledovatel'skim institutom gidrotekhniki im.B.Ye.Vedeneyeva i kafedroy gidrotekhnicheskikh sooruzheniy Moskovskogo inzhenerno-stroitel'nogo instituta im. V.V.Kuybyshheva.
(Concrete--Testing) (Hydraulic engineering)

5(1) SOV/20-125-2-34/64

AUTHORS: Arkhipov, A. M., Mal'tsov, K. A., Sokolov, I. B., Staritskiy, P. G.

TITLE: On the Influence Exercised by Water on the Strength of Concrete (O vliyanii vody na prochnost' betona)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 2, pp 359-362 (USSR)

ABSTRACT: The strength of concrete in the case of elongation in the direction of axis R_d, of elongation in bending R_{db}, and compression R_d depends to a varying extent on the humidity content, composition and the nature of additions. The authors devoted special attention to the strength of concrete under elongation in the axial direction. The resistance to elongation R_d is the most important feature of concrete strength. The elongation mentioned determines the resistance to brittleness and therefore also the working properties of the construction, including durability (Refs 1-5) and working life. During the hardening process the present free water warrants cement hydration and increases the strength of concrete (Table 1).

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This indicates also that the same samples in dry state are twice as strong as water-saturated samples due to the physicochemical action of water contained in the pores of the concrete (Refs 6-10). Figure 1 shows that the strength of concrete and mortar decreases with increasing humidity content of the material. The above-mentioned dependence is expressed by a formula in the first approximation. If the samples are artificially overdried, the strength sometimes rapidly decreases, which must be taken into account in establishing the range of applicability of the formulas. Though the reduction of strength by saturation with water has been known already since a long time and even a "softening coefficient" has been introduced, no satisfactory physical explanation of the problem was given before 1946 when Rebinder (Ref 13) filled the gap. He proved that each pore filled with water serves as a container which feeds adsorption films covering the old and new free surfaces of defects and cracks. It was shown that the ratio of water: cement (w : c) has only an insignificant effect on concrete strength under elongation but determines the degree of possible saturation with water. The results of experiments made in order

to check the above-mentioned considerations are given in figures 1 : 3. In this case, the ratio of w : c determined only the reduction of strength by a forced saturation with water, the degree of which rises with an increase of w : c. A very important conclusion may be drawn therefrom: it is useful to reduce the capability of concrete to absorb water in order to increase its strength. This fact has been utilized for practical purposes already since a long time as confirmed by the use of rigid, little porous concrete and by the introduction of various additions (Table 2). It should be taken into account, however, that only certain additions can be recommended for the individual purposes (hydrotechnic concrete, civil building-trade). There are 2 figures, 2 tables, and 20 references, 19 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut gidrotekhniki im. B. Ye. Vedeneyeva (Scientific Research Institute of Hydrological Engineering imeni B. Ye. Vedeneyev)

On the Influence Exercised by Water on the Strength of Concrete SOV/20-125-2-34/64

PRESENTED: November 21, 1958, by P. A. Rebinder, Academician

SUBMITTED: September 10, 1958

Card 4/4

S/081/61/000/019/055/085
B117/B110

AUTHORS: Mal'tsov, K. A., Sokolov, I. B., Arkhipov, A. M.

TITLE: Importance of concrete saturation with water to the problem of the influence of the water-cement ratio on its strength

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 317, abstract 19K326 (Izv. Vses. n.-i. in-ta gidrotekhn., v. 64, 1960, 85 - 100)

TEXT: The effect of water on the strength of concrete has been studied. It has been shown that the strength of concrete is considerably influenced by saturation with water during tests, but not by the initial water-cement ratio. [Abstracter's note: Complete translation.]

Card 1/1

GOL'DIN, A.L., red.; ZHILENKOV, V.N., red.; IZMAYLOVA, R.A., red.; KRAYEV, G.A., red.; KRICHEVSKIY, I.Ye., red.; KVAKK, V.A., red.; SOKOLOV, I.B., red.; SUDAKOV, V.B., red.; FOMIN, G.D., red.; SHUL'MAN, S.G., red.; ABRAMSON, L.S., tekhn. red.

[Collection of reports on hydraulic engineering; the third engineering conference of young scientists] Sbornik dokladov po gidrotekhnike; tret'ia nauchno-tekhnicheskaia konferentsiia molodykh nauchnykh rabotnikov. Moskva, Gosenergoizdat, 1961. 183 p. (MIRA 17:2)

1. Leningrad. Nauchno-issledovatel'skiy institut gidrotekhniki.

ARABADZHYAN, I.R., red.; IZMAYLOVA, R.A., red.; KRAYEV, G.A., red. [deceased]; KRICHEVSKIY, I.Ye., red.; SOKOLOV, I.B., red.; SOLNYSHKOV, V.A., red.; STREL'TSOVA, T.D., red.; FOMIN, G.D., red.; SHUL'MAN, S.G., red.; ABRAMSON, L.S., tekhn.red.

[Collection of papers on hydraulic engineering] Sbornik dokladov po gidrotekhnike. Moskva, Gosenergoizdat, 1962. 284 p. (MIRA 17:3)

1. Nauchno-tekhnicheskaya konferentsiya molodykh nauchnykh rabotnikov. 4th, 1962.

SOKOLOV, I.B.; PERMYAKOVA, V.V.

Design method for determining the back pressure of water taking into account the stressed state of the concrete of the hydraulic structures. Sbor. dokl. po gidr. VNIIG no.4:48-55 '62. (MIRA 18:7)

BASEVICH, A. Z., doktor tekhn. nauk, prof.; SOKOLOV, I. B., inzh.

Coordinating conference on studies of characteristics of hydraulic concrete and reinforced concrete subject to static and dynamic loading. Gidr. stroi. 33 no.12:55-57 D '62. (MIRA 16:1)

(Concrete—Testing)

13618* **The Problem of Drying Lump Peat by Use of Multiple-Layer Piles.** (Russian.) V. F. Kazarinov and I. D. Sokolov. *Torfianaia Promyshlennost*, v. 29, July 1952, p. 27-30.

Discusses various aspects of drying. Data from a series of test piles are tabulated.

SOKOLOV, I. D.

Peat Industry

Determining the degree of dependability of peat winning methods.
Torf. prom. 30 no. 1, 1953

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

SOKOLOV, I.D.

Methods of establishing certain industrial indexes. Torf.prom. 32 no.7:15-16 '55. (MLRA 9:1)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti. (Peat industry)

15-57-5-7266

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 217 (USSR)

AUTHOR: Sokolov, I. D.

TITLE: Direct Moistening of Cut Peat by Atmospheric Precipitation (O neposredstvennom uvlazhnenii kuskovogo torfa ot atmosfernykh osadkov)

PERIODICAL: Tr. Vses. in-ta torf. prom-sti, 1956, Nr 13, pp 37-47

ABSTRACT: The mechanics of the absorption and flow of moisture from peat blocks are briefly analyzed. The widespread concept of the primary part played by absorption of moisture by the peat block from the soil through its bearing surface is rejected. The process of moisture exchange between the peat and the soil is considered a special problem. The observed results of the effectiveness of drying cut peat on fields at the Naziya peat enterprise are set forth. It was

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15-57-5-7266

Direct Moistening of Cut Peat (Cont.)

desired to obtain data on the relation of cut peat moistening to atmospheric precipitation. Hence the USSR Scientific Research Institute for the Peat Industry constructed in 1948 a special rainfall machine which will imitate natural precipitation of any given intensity over an area of about 1.3 sq. m. The apparatus is described. A series of tests was conducted with this machine on the top surface of hydrous peat with an average degree of decomposition of 30 percent. Blocks peat with a moisture content of 80 to 25 percent. Blocks in various drying arrangements were tested for wetting. The author draws the following conclusions on the basis of preliminary tests: 1) the percentage of direct absorption of precipitation by a horizontal surface of peat blocks depends, to a large extent, on the total amount of precipitation even when the intensity of precipitation is constant; 2) moistening of peat due to precipitation is actually somewhat lower for peat of a lower moisture content; the degree of difference in moistening is, however, lower than is indicated in the literature; 3) the percentage of absorption of

Card 2/3

SOKOLOV, I.D.

Methods for winning peat employing artificial drying of unmarketable milled peat. Torf.prom. 33 no.1:23-26 '56. (MLRA 9:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti.

(Peat industry)

SOKOLOV, I.D.

Division of the peat industry into districts on the basis of climate. Torf.prom. 34 no.5:9-11 '57. (MIRA 10:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti.

(Peat industry)

SOKOLOV, I.D.

Investigating the drying of milled peat. Torf.prom. 35 no.2:26 '58. (MIRA 11:5)

1. Rukovoditel' laboratorii Vsesoyuznogo nauchno-issledovatel'skogo instituta torfyanoy promyshlennosti.
(Peat--Drying)

CHUBAROV, N.D., red.; KORCHUNOV, S.S., kand.tekhn.nauk, red.; SOKOLOV, I.D.; KOLOTUSHKIN, V.I., red.; LARIONOV, G.Ye., tekhn.red.

[Results and main trends of research on the cutting method of peat winning; materials of an industry-wide scientific and technical conference] Itogi i osnovnye napravleniia nauchno-issledovatel'skikh rabot po frezernomu sposobu dobychi torfa; materialy otraslevogo nauchno-tekhnicheskogo soveshchaniia. Pod obshchei red. N.D.Chubarova, S.S.Korchunova i I.D.Sokolova. Moskva, Gos.energ.izd-vo, 1959. 253 p. (MIRA 13:8)

1. Leningrad, Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti. 2. Rukovoditel' laboratorii frezernogo torfa Vsesoyuznogo nauchno-issledovatel'skogo instituta torfyanoy promyshlennosti (for Chubarov). 3. Rukovoditel' laboratorii Vsesoyuznogo nauchno-issledovatel'skogo instituta torfyanoy promyshlennosti (for Korchunov, Sokolov).
(Peat)

SOKOLOV, I.D.; BERMAN, Yu.A., kand.tekhn.nauk

Investigating the process of an artificial additional drying of peat litter. Torf.prom. 37 no.6:19-22 '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti.

(Peat—Drying)

KUDIMOV, Leonid Petrovich, inzh.; KUSKOV, Yuriy Danilovich, inzh.; SAFONOV, Konstantin Yevgen'yevich, inzh.; SOKOLOV, I.D., red.; BUL'DYAYEV, N.A., tekhn. red.

[Mechanizing the preparation of peat deposits for winning peat]Mekhanizatsiia podgotovki torfianykh mestorozhdenii dlia dobychi torfa. Moskva, Gosenergoizdat, 1962. 350 p. (MIRA 16:4)

(Peat industry--Equipment and supplies)

SOKOLOV, I.D.

Conference of the readers of "Torfianaia promyshlennost'."
Torf.prom. 39 no.2:32 '62. (MIRA 15:5)
(Peat industry--Periodicals)

SOKOLOV, I. D.

"Air drying of milled peat."

Report submitted for the 2nd International Peat Congress, Leningrad, 15-22 Aug 63.

[illegible], A.S.; [illegible]INA, N.A.; SOKOLOV, I.D.

Drying insulating peat slabs by the pressure-drop method. Inzh.-fiz. zhur. 8 no.6:730-734 Je '65. (MIRA 18:7)

1. Institut torfyanoy promyshlennosti, Leningrad.

VAKHRUSHEVA, Ol'ga Afanas'yevna; RADCHENKO, Arkadiy Nikolayevich; ABDULLAYEV, Dzhura Abdullayevich; SOSNOVSKIY, A.A., inzh., red.; SOKOLOV, I.D., inzh., red.; MORDVINOVA, N.P., inzh., vedushchiy red.; SOROKINA, T.M., tekhn.red.

[Automatic transmitter of alarm and distress signals] Avtomaticheskii podatchik signalov trevogi i bedstviia. Maloreleinyi raspredelitel' impul'sov. Moskva, 1958. 14 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 42, no.P-58-45/3) (MIRA 12:9)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii. Filial.
(Electric relays) (Pulse techniques (Electronics))
(Radio--Installation on ships)

VCRONKOV, Anatoliy Yefimovich, inzh.; KORABLEV, Lev Nikolayevich, inzh.; MURIN, Igor' Dmitriyevich, inzh.; SHTRANYKH, Igor' Vladimirovich, kand. tekhn. nauk; SHTEYNBOK, G.Yu., inzh., ved. red.; SOKOLOV, I.D., inzh., red.; SOROKINA, T.M., tekhn. red.

[High-speed multichannel pulse height analyzer]. Bystrodeistvuiushchii mnogokanal'nyi amplitudnyi analizator. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1957. 63 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 41. No.P-57-16/1) (MIRA 16:3)
(Pulse techniques (Electronics))
(Electronic measurements)

NOTKIN, Leonid Rafailovich, inzh.; MORDVINOVA, N.P., inzh., ved. red.; SOKOLOV, I.D., inzh., red.; SOROKINA, T.M., tekhn.red.

[GI-2A-type pulse generator]Generator impul'sov GI-2A. Moskva, Filial Vses. in-ta nauchn. i tekhn.informatsii, 1958. 30 p. (Peredovoi naucnno-tekhnicheskii i proizvoditel'nyi opyt. Tema 36. No.P-58-2/1) (MIRA 16:3)
(Oscillators, Electron-tube)
(Pulse techniques (Electronics))

MORSKIY, Grigoriy Moiseyevich, inzh.; SHTEYNBOK, G.Yu., inzh., ved. red.; SOKOLOV, I.D., inzh., red.; SOROKINA, T.M., tekhn. red.

[Pulse amplitude memorizing device] Zapominateli amplitud impul'sov. Moskva, Filial Vses.in-ta nauchn. i tekhn. informatsii, 1957. 13 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 38. No.P-57-45/3) (MIRA 16:3)
(Pulse techniques (Electronics))
(Electronic apparatus and appliances)

RYBAKOV, Boris Vasil'yevich, kand. tekhn.nauk; SHTEYNBOK, G.Yu., inzh., ved. red.; SOKOLOV, I.D., inzh., red.; SMIRNOV, B.M., tekhn. red.

[Electronic device for measuring phase-shifted code impulses] Elektronnoe ustroistvo dlia sravneniia kodovykh impul'sov, sdvinutykh po faze. Moskva, Filial Vses. in-ta nauchn. i tekhn.informatsii, 1957. 15 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 40. No.P-57-6/1) (MIRA 16:3)

(Information theory)
(Pulse techniques (Electronics))

PA 15/49T70

USSR/Engineering
Construction Equipment
Winches

Aug 48

"S-201--A Friction Winch Having a Lifting Capacity of 1.0 to 1.5 Tons," I. D. Sokolov, Engr, 2 pp

"Mekh Stroi" No 8

Saratov plant of Ministry of Construction and Road Machine-Building has produced experimental model of S-201 winch. Describes winch in detail. Drawings, tables and photograph.

15/49T70

SOKOLOV, I.D., inzhener; NOVOSEL'SKII, P.I., inzhener.

Elevator T-143 for building skyscrapers. Mekh.stroi. 10 no.10:16-19 O '53.
(MLRA 6:9)
(Hoisting machinery)

SOKOLOV, I.D., inzhener.

New T-226 tower crane. Stroi. i dor. mashinostr. 2 no.6:11-15 Je '57. (MLRA 10:6)

(Cranes, derricks, etc.)

IOGANSEN, Aleksandr Aleksandrovich; LYUSTIBERG, V.F., inzh., ved. red.; SOKOLOV, I.D., inzh., red.; SOROKINA, T.M., tekhn.red.

[800 timer calibrator]Sekundomer-kalibrator tipa 800. Moskva, Filial Vses.in-ta nauchn. i tekhn.informatsii, 1958. 17 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 31. No.P-58-34/6) (MIRA 16:3)
(Automatic timers)

109-1-5/18

AUTHORS: Sokolov, I.F., Valman, D.Ye.

TITLE: Optimum Linear In-Phase AntennasHaving a Continuous Current Distribution (Optimal'nyye lineynyye sinfaznyye antenny s nepreryvnym raspredeleniyem toka)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, Nr 1, pp.46-55 (USSR)

ABSTRACT: The optimum radiation pattern of a directional antenna, as defined by Dolph (Ref.1) is the pattern which, for a given width of the main beam, has a minimum level of the side lobes, or, alternatively, at a given level of the side lobes, gives a minimum width of the main lobe. The problem of designing this type of antenna was solved by Dolph by means of the Chebyshev polynomial and the width of the main beam of the radiation pattern at a level, r , is expressed by Eq.(1), where R is the relative level of the side lobes and n is the number of the equidistant radiators. The parameter u is defined by :

$$u = \frac{\pi d}{\lambda} \sin \theta \quad , \qquad (2)$$

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Optimum Linear In-Phase Antenna Having a Continuous Current Distribution

where d is the distance between the radiators, λ is the wavelength and θ is the angle measured from the perpendicular of the radiator (see Fig.1). Eq.(1) can be modified to cover the case of a continuous antenna, which can be regarded as being constructed of an infinite number of radiators; the length of the antenna is D and if D is assumed to be a constant, the spacing between the radiators decreases to 0 as n tends to infinity. By introducing a new variable defined by:

$$v = \frac{\pi D}{\lambda} \sin \theta \quad , \qquad (3)$$

Eq.(1) can be expressed as Eq.(5), which can be solved with respect to r. The resulting solution is expressed by:

$$r = E(v) = \frac{ch\sqrt{arch^2 R - v^2}}{R} \qquad (6)$$

The equation was used to construct a number of radiation patterns for various R and these are shown in Figs.2. An

Optimum Linear In-Phase Antenna Having a Continuous Current Distribution

attempt is made to evaluate the current distribution in the above optimum antenna. It is shown, however, (see Fig.4) that the current distribution is not physically realisable since the antenna should have considerable current jumps at its edges. An attempt is made, therefore, to determine the radiation patterns of the antenna in which the current distribution is a monotonically decreasing function, i.e., there are no sudden jumps at the edges. The radiation patterns of such antennas, referred to as the quasi-optimum antennas, is defined by Eq.(18). The resulting curves are shown by dashed lines in Figs.2. By comparing the curves for the optimum and the quasi-optimum antennas, it can be seen that the latter has a somewhat wider main lobe and a slightly higher first side lobe. The current distribution necessary to achieve the quasi-optimum radiation pattern can be found from Eq.(19). The equation can be solved approximately. The results shown in Fig.6 represent the current distribution calculated for various levels of the side lobes (from 20 to 60 db). From these

Optimum Linear In-Phase Antenna Having a Continuous Current Distribution

curves it is seen that the quasi-optimum current distribution is governed by a smooth monotonic function. If the side lobe level is decreased, the slope of the current distribution curve is increased and the current amplitude at the edge of the antenna is reduced. Also the directivity coefficients of the optimum and quasi-optimum antenna were calculated as a function of D and R and these are shown in Figs.7 and 8. There are 3 figures and 2 English and 5 Russian references.

SUBMITTED: November 22, 1956

AVAILABLE: Library of Congress

Card 4/4

[illegible], I. P.

"Problem of the Meteorological Criterion for Dry Winds of a Monsoon Climate"
Meteorol. i Gidrologiya, No 1, 22-25, 1954

The term dry wind (sukhovey), is used by the author to define a wind with velocity of 5 meters/sec and more during which the temperature of the air and deficiency of moisture at 1300 hours is above normal and the relative humidity is below normal (not above 30%) in a monsoon climate in the temperate latitudes. On the basis of this criterion he established that the maximum number of days with dry winds are observed in the spring (40-60% of the yearly number) and the minimum in the summer (7-30%); the prevailing direction of the dry winds is west, which is stable during the course of the entire vegetative period. (RZhGeol, No 1, 1955)

SO: [illegible]. 492, 13 May 55

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P.; BUCHINSKIY, I.Ye.; SEYANINOV, G.T., professor; BOSHNO, L.V.; ALISOV, B.P.; BIRYUKOV, N.N.; GAL'TSOV, A.P.; GRIGOR'YEV, A.A., akademik; EYGENSON, M.S., professor; MURETOV, N.S.; KHROMOV, S.P.; BOGDANOV, P.N.; LEBEDEV, A.N.; SOKOLOV, V.N.; YANISHEVSKIY, Yu.D.; SAMOYLENKO, V.S.; USMANOV, R.F.; CHUBUKOV, L.A.; TROTSENKO, S.Ya.; VANGENGEYM, G.Ya.; SOKOLOV, I.F.; STYRO, B.I.; TEMNIKOVA, N.S.; ISAYEV, E.A.; DMITRIYEV, A.A.; MALYUGIN, Ye.A.; LIEDEMAA, Ye.K.; SAPOZHNIKOVA, S.A.; RAKIPOVA, L.R.; POKROVSKAYA, T.V.; BAGDASARYAN, A.B.; ORLOVA, V.V.; RUBINSHTEYN, Ye.S., professor; MILEVSKIY, V.Yu.; SHCHERBAKOVA, Ye.Ya.; BOCHKOV, A.P.; ANAPOL'SKAYA, L.Ye.; DUNAYEVA, A.V.; UTESHEV, A.S.; RUDNEVA, A.V.; RUDENKO, A.I.; ZOLOTAREV, M.A.; NERSESYAN, A.G.; MIKHAYLOV, A.N.; GAVRILOV, V.A.; TSOMAYA, T.I.; DEVYATKOVA, A.M.; ZAVARINA, M.V.; SHMETER, S.M.; BUDYKO, M.I., professor.

Discussion of the report (in the form of debates) [of the current state climatological research and methods of developing it]. Inform. stor.GUGMS no.3/4:26-154 '54. (MIRA 8:3)

1. Chlen-korrespondent Akademii nauk SSSR (for Fedorov). 2. Glavnaya geofizicheskaya observatoriya im. A.I.Voeykova (for Predtechenskiy, Lebedev, Yanishevskiy, Isayev, Rakipova, Pokrovskaya, Orlova, Rubinshteyn, Budyko, Shcherbakova, Anapol'skaya, Dunayeva, Rudneva, Gavrilov, Zavarina). 3. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (for Buchinskiy).

(Continued on next card)

FEDOROV, Ye.Ya., professor; PREDTECHENSKIY, P.P., and others.

Discussion of the report (in the form of debates) [of the current state climatological research and methods of developing it]. Inform. sbor. GUGMS no.3/4:26-154 '54. (Card 2) (MLRA 8:3)

4. Vsesoyuznyy institut rastenievodstva (for Selyaninov, Rudenko). 5. Bioklimaticheskaya stantsiya Kislovodsk (for Boshno). 6. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (for Alisov). 7. Ministerstvo putey soobshcheniya SSSR (for Biryukov). 8. Institut geografii Akademii nauk SSSR (for Gal'tsov, Grigor'yev). 9. Geofizicheskaya komissiya Vsesoyuznogo geograficheskogo obshchestva (for Eygenson). 10. Ministerstvo elektrostantsiy i elektropromyshlennosti SSSR (for Muretov). 11. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova (for Khromov). 12. TSentral'nyy nauchno-issledovatel'skiy gidrometeorologicheskiy arkhiv (for V.N.Sokolov, Zolotarev). 13. Gosudarstvennyy okeanograficheskiy institut (for Samoylenko). 14. TSentral'nyy institut prognozov (for Usmanov, Sapozhnikova). 15. Institut geografii Akademii nauk SSSR i TSentral'nyy institut kurortologii (for Chubukov). 16. Nauchno-issledovatel'skiy institut imeni Sechenova, Yalta (for Trotsenko). 17. Arkticheskiy nauchno-issledovatel'skiy institut (for Vangengeym).

(Continued on next card)

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P., and others.

Discussion of the report (in the form of debates) [of the current state of climatological research and methods of developing it]. Inform.sbor. GUGMS no.3/4:26-154 '54. (Card 3) (MIRA 8:3)

I.F

18. Dal'nevostochnyy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (for Sokolov). 19. Institut geologii i geografii Akademii nauk Litovskoy SSR (for Styro). 20. Rostovskoe upravlenie gidrometsluzhby (for Temnikova). 21. Morskoy gidrofizicheskiy Institut Akademii nauk SSSR (for Dmitriyev). 22. Vsesoyuznyy institut rasteniyevodstva (for Malyugin). 23. Akademiya nauk Estonskoy SSR (for Liedemaa). 24. Akademiya nauk Armyanskoy SSR (for Bagdasaryan). 25. Leningradskiy gidrometeorologicheskiy institut (for Milevskiy).

(Continued on next card)

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P., and others.

Discussion of the reports (in the form of debates) [of the current state climatological research and methods of developing it]. Inform.sbor. GUGMS no.3/4:26-154 '54. (Card 4) (MLRA 8:3)

26. Gosudarstvennyy gidrologicheskiy institut (for Bochkov). 27. Kazakhskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (for Uteshev). 28. Upravlenie gidrometsluzhby Armyanskoy SSR (for Nersesyan). 29. Leningradskoye upravleniye gidrometsluzhby (for Mikhaylov, Devyatkova). 30. Tbilisskiy gosudarstvennyy universitet (for Tsomaya). 31. TSentral'naya aerologicheskaya observatoriya (for Shmeter).
(Climatology)

SOKOLOV, I.F.

Dust storm in the Maritime Territory. Meteor.i gidrol. no.3:45-46 Mr '57. (MLRA 10:5)

(Maritime territory--Dust storms)

Sukov, I.F.

3(5) PHASE I BOOK EXPLOITATION SOV/1910

Akademiya nauk SSSR. Dal'nevostochnyy filial, Vladivostok. Institut geografii.

Materialy po fiziicheskoy geografii yuga Dal'nego Vostoka; Prikhankayskaya ravnina i prilegayushchiye k ney rayony Primorskogo kraya (Physical Geography of the Southern [Soviet] Far East; Khanka Plain and Adjacent Areas of the Primorskiy Kray) Moscow, Izd-vo AN SSSR, 1960. 299 p. 1,300 copies printed.

Resp. Eds.: B.P. Kolesnikov, Doctor of Biological Sciences, G.D. Rikhter, Doctor of Geographical Sciences, Professor, and V.V. Nikol'skaya, Candidate of Geographical Sciences; Ed. of Publishing House: P.K. Kavun; Tech. Ed.: Yu. V. Makuni.

PURPOSE: This book is intended for geographers interested in the physical geography of the Primorskiy Kray (Maritime Province).

COVERAGE: These articles deal with various aspects of the physical geography of the Primorskiy Kray, particularly the Suyfun-Khankayskaya plain. A paleogeographic study of the Ussuri valley is given as is a general treatment of the hydrography and climate of the Prikhankayskaya (Khanka) plain. Information is provided on the non-metallic minerals of the plain and the rocks available for construction purposes. References accompany each article.

Kedrovaya River Basins. 111

Stotsenko, A.V. A Climatic Outline of the Prikhankayskaya Plain and Adjacent Territories 131

Sokolov, I.A. Dry Winds Suoveye as a Climatic Feature of the Forest-Steppe Landscape of the Prikhankayskaya Plain 162

Stotsenko, A.V., V.G. Chernenko. A Hydrogeographic Description of the Rivers of the Prikhankayskaya Plain and those of Contiguous Regions 179

Stotsenko, A.V. Floods in the Primorskiy Kray 254

Purentsov, A.I. Animal Life in the Prikhankayskaya Plains 273

AVAILABLE: Library of Congress (QH325.A45) MM/lab 6-19-59

Card 3/3

KLYUKIN, Nikolay Konstantinovich; SOKOLOV, I.F., red.; KORNILENKO, V.S., red.; YERSHOVA, T.S., tekhn.red.

[Climatic survey of the northeastern part of the U.S.S.R.] Klimaticheskii ocherk Severo-Vostoka SSSR. Pod red. I.F.Sokolova. Moskva, Gidrometeor.izd-vo, 1960. 116 p. (MIRA 13:11)
(Yakutia--Climate) (Magadan Province--Climate)

BELEVICH, V.V.; SHVETSOVA, V.F.; ZHITYAYKINA, N.F.; BYKADOROV, I.S.; IVANOV, G.I., kand.sel'skokhoz.nauk; GERMANISHVILI, V.Sh., kand.geogr.nauk, retsenzent; SOKOLOV, I.F., retsenzent; KALMYKOVA, V.V., retsenzent; LYUBOMUDROVA, S.V., retsenzent; KRUZHKOVA, T.S., retsenzent; BOYKOVA, K.G., retsenzent; NOVSKIY, V.A., otv.red.; VLASOVA, Yu.V., red.; SERGEYEV, A.N., tekhn.red.

[Agroclimatic manual for the Maritime Territory] Agroklimaticheskii spravochnik po Primorskomu kraiu. Leningrad, Gidrometeor.izd-vo, 1960. 129 p. (MIRA 14:4)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeorologicheskoy sluzhby. Primorskoye upravleniye. 2. Vladivostokskaya gidrometeorologicheskaya observatoriya (for Belevich, Shvetsova, Zhityaykina, Bykadorov). 3. Dal'nevostochnyy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (for Germanishvili, Sokolov, Kalmykova, Lyubomudrova, Kruzhkova, Boykova).
(Maritime Territory--Crops and climate)

SOKOLOV, I.F.

Erroneous timing of the beginning of precipitation in V. L. Arkhangel'skii's monograph "Effect of the Sikhote-Alin' on synoptic processes and the distribution of precipitation". Meteor. i gidrol. no.4:64-65 Ap '62. (MIRA 15:5)
(Sikhote Alin' Range region—Precipitation (Meteorology))
(Arkhangel'skii, V.L.)

SOKOLOV, I.G., kandidat tekhnicheskikh nauk; BESSER, Ya.R., kandidat tekhnicheskikh nauk.

"Volga-Don; technical report on the construction of the V.I. Lenin Volga-Don Canal, the TSimlyansk Hydroelectric Development and Irrigation Facilities; vol.4. Concrete work." Reviewed by I.G. Sokolov, IA.R. Besser. Mekh. stroi. 14 no.2:31-3 of cover F '57. (MIRA 10:4)

(Volga-Don Canal) (Concrete construction)

SOKOLOV, I.G.

15 7

The beneficiation of glass sands with the hydrocyclone. P. G. Khramov and I. G. Sokolov. *Steklo i Keram.* 13, No. 2, 4-6(1956).—Lack of adequate supplies of high-grade glass sands that meet the specifications of a max. Fe_2O_3 content of 0.02% to 0.05% has led industry to turn to mech. improvement of the lower grades either by flotation or by the use of the hydrocyclone. The simplicity of the latter process together with its wide adaptability have been weighty considerations in the choice of methods. Lab. expts. were carried at the Glass Inst. with the use of a hydrocyclone of 150 mm. diam. on a sand of 0.13% total Fe_2O_3 in the following chem. combinations: with Al_2O_3, 0.015%; with heavy minerals, 0.01%; in coatings of hydrated oxide, 0.05%; combined with silicates, 0.02%. On the basis of 7 runs the av. Fe_2O_3 content after cleaning was 0.037%; reduction in the Fe_2O_3 content, 68.0%. The production rate was high, viz., 7.5 to 10 tons/hr. H. L. Olin

Ref. 4
4E2C -1

SOKOLOV, I. G.

AID Nr. 994-12 20 June

ELECTROSLAG MELTING OF ЭИ787 ALLOY (USSR)

Pridantsev, M. V., I. G. Sokolov (Deceased), and A. I. Kondrat'yev.
Avtomaticheskaya svarka, no. 3, Mar 1963, 7-12.
S/125/63/000/003/002/012

The Institute of Metallurgy imeni A. A. Baykov, in cooperation with the Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin and the "Elektrostal'" Plant, has investigated the effect of electroslag melting on the mechanical properties, particularly forgeability, of ЭИ787 heat-resistant Fe-Ni-base alloy. The 1000 to 1250-kg consumable electrodes made of conventionally arc-melted steel were remelted under АН-6 flux [65% CaF_2, 35% Al_2O_3] into 910 to 1275-kg ingots. The electroslag-melted alloy contained 0.08% C, 0.50% Si, 0.33% Mn, 2.93% W, 14.05% Cr, 34.4% Ni, 2.66% Ti, 1.24% Al, 0.010% B. Except for an average loss of 18% Al and 13% Ti, electroslag melting had no significant effect on the content of the alloying elements.

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ELECTROSLAG MELTING [Cont'd] S/125/63/000/003/002/012

However, it lowered O content to 0.0041% and nonmetallic inclusions to 0.001%, compared with 0.0080% and 0.005% in the conventionally melted alloy; the H content and the composition of the nonmetallic inclusions remained practically unchanged. The tensile strength at 860 to 1200°C of the electroslag-melted alloy in as-cast or forged condition was almost the same as that of the conventionally melted alloy; at lower temperatures electroslag-remelted metal was somewhat stronger. Elongation of the as-cast electroslag metal at all temperatures up to 1200°C was double that of the conventional metal; at 800 to 1200°C the forged electroslag metal had a 30 to 40% greater elongation than the conventional metal. As-cast electroslag metal in the 800-1000°C range had a reduction of area 10 to 15% higher than that of the conventional metal; the reduction of area of forged electroslag metal was four times as high as that of conventional metal at 800°C and 10 to 15% higher at 900 to 1100°C. At temperatures over 1100°C, both elongation and reduction of area dropped

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sharply, regardless of condition and melting method, because of the formation of low-melting boron eutectic at the grain boundaries. The notch toughness of the as-cast electroslag metal was 50 to 60%, and of the forged metal 15 to 25%, higher than that of the conventional metal. In torsion tests, the as-cast or forged electroslag metal in the 800 to 1150°C range withstood 2 to 4 times as many turns as conventional metal. In upsetting at 800 to 1200° C, the as-cast electroslag metal required 15 to 25% less pressure than the conventional metal for the same reduction; forged metal, regardless of the method of melting, required 20 to 30% more pressure than as-cast metal for the same reduction. The maximum one-stroke reduction (press or hammer) was 40% for as-cast electroslag metal and 25 to 30% for conventional metal; for forged electroslag metal, it was 15 to 20% higher than for as-cast metal. The better forgeability of the electroslag metal is attributed to a lower content of non-metallic inclusions and a better macrostructure of the ingots. [MS]

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GLOBUS, L.L.; SOKOLOV, I.G.; SOKOLOV, B.I.; LUGOVKINA, Ye.I.; GURVICH, E.A., red.; KASIMOV, D.Ya., tekhn. red.

[Manufacture of nonmetallic building materials] Proizvodstvo nerudnykh stroitel'nykh materialov. Moskva, Gosstroiizdat, 1963. 175 p. (MIRA 17:2)

1. Gosudarstvennyy soyuznyy institut po proyektirovaniyu nemetallorudnoy promyshlennosti.

SOKOLOV, I.G., kandidat tekhnicheskikh nauk.

Methods of setting up a fit and tolerance system for the mechanical machining of forgings. Vest.mash.27 no.2:46-54 '47. (MLRA 9:4)
(Machine-shop practice)(Forging)(Tolerance (Engineering))

KEREKESH, V.V., inzhener.

Introduction of moderately progressive standards was not provided for V.V.Kerekesh. Vest.mash. 27 no.12:74 D '47. (MLRA 9:4)

1.Byuro tekhnicheskikh normativov Ministerstva stankostroyeniya SSSR. (Tolerance (Engineering)) (Sokolov, I.G.)

SOKOLOV, I. G.

Forging and punching of rolling stock Moskva, Gos. transp. zhel-dop. izd-vo, 1948. 266 p. (54-32080)

1. Forging.

TS225.S6

SOKOLOV, I.G.

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Vagonnye Ressory; Proizvodstvo I Remont (Railroad Car Springs; Fabrication and Repair) Moskva, Transzheldorizdat, 1952.

182 p. Illus., Diagrs., Tables.

"Literatura": p. 180-(181)

SOKOLOV, I.G.

In memory of Lev Genrikhovich Shnirel'man. Vop.elem.i vys.mat. no.1:15-23 '52. (MLRA 10:7)
(Shnirel'man, Lev Genrikhovich, 1905-1938)

SOKOLOV, I. G.

BRAVICHEV, V.A., kandidat tekhnicheskikh nauk, dotsent; BRODOVICH, N.V., kandidat tekhnicheskikh nauk; VLASOV, V.I., kandidat tekhnicheskikh nauk, retsenzent, redaktor; YEGORNOV, A.N., professor, retsenzent, redaktor; ZOBNIN, N.P., doktor tekhnicheskikh nauk, professor,; IVANNIKOV, D.G., kandidat tekhnicheskikh nauk, dotsent; KIRKIN, V.G., doktor tekhnicheskikh nauk,professor; KOTOV, O.K. kandidat tekhnicheskikh nauk; MARIYENBAKH, L.M., doktor tekhnicheskikh nauk, professor; MASHONIN, P.A., inzhener, RUBINSHTEYN, S.A., inzhener, RUDOY, M.L. inzhener, YUDIN , D.L., kandidat tekhnicheskikh nauk, dotsent, redaktor; PETROV, N.I., inzhener, retsenzent; SIDOROV, S.I., inzhener, retsenzent; SOKOLOV, I.G., kandidat tekhnicheskikh nauk, retsenzent; BERESTOVA, Ye.I., inzhener, retsenzent; DOROKHIN, P.N., kandidat tekhnicheskikh nauk, retsenzent; RUSTEM, S.L., kandidat tekhnicheskikh nauk, dotsent, redaktor; LARIN, M.N., laureat Stalinskoy premii, professor, doktor tekhnicheskikh nauk, retsenzent; SOKOLOV, A.V., inzhener, retsenzent; GRUDOV, P.P., laureat Stalinskoy premii, dotsent kandidat tekhnicheskikh nauk, retsenzent;DONNER, L.L., inzhener, retsenzent; ZOBNIN, professor, doktor tekhnicheskikh nauk, retsenzent; BELAVENTSEV, N.V., inzhener, retsenzent; SYCHEV, B.P., dotsent, retsenzent; SHKOL'NIK, L.M., kandidat tekhnicheskikh nauk, retsenzent; LOBANOV, D.V., kandidat tekhnicheskikh nauk,dotsent, retsenzent, redaktor; MASHONIN, P.A., inzhener, retsenzent, redaktor; OBUKHOV, A.V., inzhener, redaktor; BELETSKIY, D.G., kandidat tekhnicheskikh nauk, dotsent, redaktor; ODING, I.A., redaktor; LEVITSKIY, kandidat tekhnicheskikh nauk, dotsent, redaktor; YUDSON, D.M., tekhnicheskiy redaktor

(Continued on next card)

(Card 1)

(Card 2)

[Railroad man's technical manual] Tekhnicheskii spravochnik zheleznodorozhnika. Red.kollegiia: V.I. Vlasov, A.N.Egornov, N.P. Zobnin, E.F.Rudoi (Glav.red.) A.V.Sokolov. Moskva, Gos.transp.zhel-dor.izd-vo. Vol. 12 [Processing metals at railroad transport enterprises] Obrabotka metallov na predrpiiatiiakh zheleznodorozhnogo transporta. Otvet.red. N.P.Zobnin. 1954. 671 p.(MLRA 8:11)

1. Chlen-korrespondent, AN SSSR (for Oding)
(Mechanical engineering)

SOKOLOV, I.G., kandidat tekhnicheskikh nauk.

Setting-up of tolerance and allowance standards for drop-forged parts. Standartizatsiia no.1:50-56 Ja-F '54. (MLRA 7:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut Ministerstva putey soobshcheniya. (Forging--Standards)

YEGORENKOV, Iosif Pavlovich; SOKOLOV, I.G., kandidat tekhnicheskikh nauk, retsenzent; SERGEYEV, V.S, inzhener, retsenzent; MANAKIN, N.V., redaktor izdatel'stva; UVAROVA, A.F., tekhnicheskiy redaktor

[Pattern-making] Model'noe proizvodstvo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 278 p. (MLRA 9:8)
(Pattern-making)

SOKOLOV, Ivan Georgiyevich; LETNEV, B.Ya., nauchnyy redaktor; SHUR, D.S., redaktor; OSTRIROV, N.S., tekhnicheskiy redaktor.

[Handbook for the young foundry worker; on hammer forging] Spravochnik molodogo kuznetsa; po svobodnoi kovke. Izd.2-oe, perer. i dop. Moskva, Vses.uchebnopedagog.izd-vo Trudrezervizdat, 1957. 431 p. (MLRA 10:5)

(Forging)

SOKOLOV, I.G., kand.tekhn.nauk

Technology of manufacturing brush-holder springs must be improved. Elek. i tepl. tiaga 2 no.5:17-19 '58. (MIRA 12:4)
(Springs (Mechanism)) (Electric brushes)

SOV/122-58-5-11/26

AUTHOR: Sokolov, I.G., Candidate of Technical Sciences

TITLE: Increasing the Fatigue Strength of Large Forged Components (Povysheniye ustalostnoy prochnosti krupnogabaritnykh kovanykh detaley)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 5, pp 47 - 51 (USSR)

ABSTRACT: An experimental study of hand-forged connecting rods made of 0.35% carbon steel to determine the effects of forging and heat treatment procedures on the endurance strength is reported. A set of forgings were made from 1 ton ingots to form a connecting rod of 1 287 mm centre distance and 40 x 90 mm stem cross-section with one solid and one forked lug. Some specimens were hardened and tempered after machining the stem and lugs. Other specimens were wholly water-quenched and in another group the lugs and a short length of the stem only were quenched. The effects of the various treatments on the micro-structure are illustrated. Specimen components were loaded in a push-pull 200 ton hydraulic fatigue machine at the rate of 300 cps. 3 million cycles were applied. Most failures were fatigue cracks and fissures across the solid or (usually) forked lugs. The lug

attachments in the fatigue machine were tight fits ensured by tapered pins and expanding sleeves. As-forged and normalized components had the same endurance limit amounting to a nominal stress of 7.2 kg/mm^2 across the forked lug. After hardening and tempering, the limit rose to 9 kg/mm^2. Components hardened and tempered after rough machining had a limit of 9.45 kg/mm^2. Oil holes in equally treated components reduced the limit to 8.5 kg/mm^2. Components tempered at 450 °C had a limit 10% higher than normalized specimens. Tensile test specimens cut from the stem had tensile strengths between 59.7 (annealed) and 69.7 kg/mm^2 (hardened and tempered). The impact values at room temperature amounted to 6 and 10 kgm/cm^2 for normalized and tempered specimens, respectively, cut in the longitudinal direction (2 and 4 kgm/cm^2 in transverse specimens). Wear tests showed the hardened and tempered specimens to have half the wear of normalized specimens. The effect of surface work-hardening was tested after surface rolling or swaging the lug bores on

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horizontal boring mills or steam-hydraulic pressers. Components made of solid forgings were compared with those in which lugs were welded to the stem by pressure butt-welding with gas. Owing to the number of variants, an accelerated fatigue test procedure was applied in which the starting load corresponded to 5.5 kg/mm^2 in the critical lug cross-section at the cycle maximum and 0.6 kg/mm^2 at the cycle minimum. Every 300 000 cycles, the maximum stress was increased by 0.4 kg/mm^2 until cracks or failure occurred. The results of these comparative tests have led to the conclusion that hardened and tempered lugs welded to a stem at a distance of 150 mm inside the lug have the same endurance strength as solid forged specimens. Surface cold work increases the endurance strength by about 50%. There are 6 figures, 3 tables and 2 Soviet references.

Card3/3 1. Carbon steel--Forging 2. Forgings--Fatigue 3. Forgings--Heat treatment

SOKOLOV, I. G.

25(1) PHASE I BOOK EXPLOITATION SOV/1586

Tekhnologicheskiy spravochnik po kovke i ob"yemnoy shtampovke (Handbook on Open and Closed Die Forging) Moscow, Mashgiz, 1959. 966 p. 15,000 copies printed.

Ed. (Title page): N.V. Storozhev; Ed. (Inside book): S.B. Kirsanova, Engineer; Ed. of Publishing House: B.M. Gliner, Engineer; Tech. Ed.: T. F. Sokolova; Managing Ed. for Information Literature (Mashgiz): V.I. Krylov, Engineer.

PURPOSE: The handbook is intended for engineers and technicans working in forging and die forming shops and in engineering design bureaus. It may also be used by teachers and students of technical schools.

COVERAGE: The handbook contains information on processes of forging and hot closed die forming as carried out on various kinds of forging and pressing machinery. Information is given on initial stock, making blanks, quality inspection of forgings and their heat treatment, and on engineering characteristics of basic machinery and mechanization equipment, on die making and on technical-economic indexes and engineering standardization. The authors state that problems of manufacture by forging and press forming which have only been discussed up to now in periodicals and specialized literature are given in this handbook. No personalities are mentioned. There are 214 references, all Soviet.

Card 7/24

SOKOLOV, I.G.

Effect of the forging reduction ratio on mechanical properties of locomotive-axle metals. Kuz.-shtam.proizv. 1 no.6:15-20 Je '59. (MIRA 12:9)
(Forging)

SOKOLOV, I.G., kand. tekhn. nauk

Tubular axles for railroad rolling stock and the technology of manufacturing them. Zhel. dor. transp. 41 no.4:53-55 Ap '59. (MIRA 12:6)

(Car axles)

CHIRKIN, Viktor Vasil'yevich, kand.tekhn.nauk; SOKOLOV, Ivan Georgiyevich, kand.tekhn.nauk; VERSHINSKIY, Vladimir Vasil'yevich, inzh. Primali uchastiye: BELAVENTSEV, N.V., inzh.; DOBKIN, S.Z., inzh. KAZANSKIY, G.A., inzh., retsenzent; SMIRNOV, A.V., red.; DANILOV, L.N., red.izd-va; SAFRANOVA, I.Yu., red.izd-va; UVAROVA, A.F., tekhn.red.; SOKOLOVA, T.F., tekhn.red.

[Technology of car construction] Tekhnologiia vagonostroeniia. Pod obshchei red. V.V.Chirkina. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 483 p. (MIRA 13:11)
(Railroads--Cars--Construction)

SOKOLOV, I.G., kand.tekhn.nauk

Mechanical characteristics of large forgirgs depending on the forging reduction ratio of billets. Vest.mash. 40 no.6:50-57 Je '60. (MIRA 13:8)

(Forging)

KRYMSKIY, Ivan Ivanovich; SOKOLOV, I.G., nauchnyy red.; ROGACHEV, F.V., red.; SAZIKOV, M.I., red.; BARANOVA, N.N., tekhn. red.

[Guide for the equipment of a training section in forging processes] Rukovodstvo po oborudovaniiu uchebnogo kabineta kuznechnogo proizvodstva. Moskva, Proftekhizdat, 1962. 54 p. (MIRA 15:5)

(Forging--Study and teaching)
(Visual education--Equipment and supplies)

SOKOLOV, I. G. SOV/6162

PHASE I BOOK EXPLOITATION

Trubin, V. N., Candidate of Technical Sciences, and I. Ya. Tarnovskiy, Doctor of Technical Sciences, eds.

Kovka krupnykh pokovok; rezul'taty issledovaniya tekhnologicheskikh rezhimov (Production of Heavy Forgings; Results of a Study of Technological Methods). Moscow, Mashgiz, 1962. 223 p. 3800 copies printed.

Reviewer: O. A. Ganago, Candidate of Technical Sciences; Tech. Ed.: N. A. Dugina; Executive Ed. of Ural-Siberian Department (Mashgiz): E. L. Kolosova, Engineer.

PURPOSE: This book is intended for engineering personnel of forging shops and engineering and design offices at heavy-machinery plants, as well as for those working in scientific-research and planning organizations. It may also be useful to students at higher educational establishments.

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